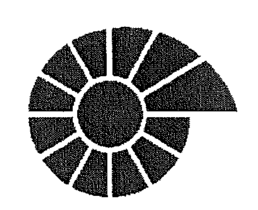


PETROLEUM DEVELOPMENT OMAN

Nimr Sludge Pit System Upgrade – FEED + DD

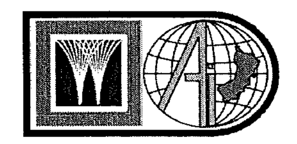
Construction Scope of Work
Main Project

WBS No-C.OM.NMI.IN.09.009

WPAI Project No.: PAIP00405

WPAI Document No. PAIP00405/SOW/0903

By

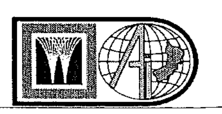


Worley Parsons – Arabian Industries (JV)

Rev. No.	Date	Description	Prepared					Checked by	Approved by
			C	PL	E	M	C&A	WPAI	Client
0	Aug 2011	Issued for Approval							

P. O. Box-795, Postal Code-133, Al-Khuwair, Sultanate of Oman. Tel: +968-24473300 Fax: +968-24483908

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1.0 INTRODUCTION

Petroleum Development Oman (PDO – Herein after called as Company) has proposed to construct and upgrade the existing Sludge disposal system at Nimr. The Nimr sludge pits are at about 3.5 km distance from NRPS sludge tank. Transfer of oil from sludge pit to sludge tank at NRPS is by trucks. The number of trucks has recently increased because of the increase in the amount of the oil in the sludge pits due to the increase in the number wells drilled, works over, and tanks cleaning activities. Hence two options studied for better handling of the sludge oil.

Option-1 is using existing system in which oil will be transferred by trucks/tanker however two new pumps to be installed at NRPS instead of existing pump P-48129.

Option-2 is installation of two new pumps at sludge pit and approx 3.5 km 6" line from sludge pits to sludge tank.

After comparison of the two options it is decided by PDO to go with option 2.

The scope is as stated below:

To carry out FEED, Detail Design & Procurement to construct and upgrade the sludge transfer system at NRPS.
Construction activity for this project to be carried out by others.

2.0 EXTENT OF RESPONSIBILITY

The Scope of Work covers construction activities for ***Civil, Mechanical, Electrical, Pipelines*** & **Instrumentation**. Pre-commissioning and Commissioning assistance, in accordance with the enclosed drawings, specifications and requirements laid down in the contract. The Scope of Work as a minimum, shall include, but is not limited to the following:

The following sections describe the overall scope only and the actual extent of work shall be as given in the attached demolition and construction drawings. The Contractor shall review the documents and check and confirm with the Company if there are any discrepancies or ambiguities before proceeding with work.

Document Control Index for Process, Civil, Mechanical, Electrical and Control & Automation works are included in Appendix-1. For information and to assist the Contractor, drawings have been referenced throughout this Scope of Work as appropriate to the various areas of work described. While every effort has been made to ensure that these reference listings are complete, it must be realized that the full scope is defined by the attached drawings and not solely those that have been referenced herein the text.

3.0 CIVIL

3.1 General

The Contractor's scope of work involves in the following areas:

- Nimr Sludge pit area



- Nimr Production station area
- Off-plot area

Various civil & structural activities involved in the above areas are as follows:

Nimr Sludge Pit area

- Modification / installation of existing fence and new gates
- Installation of new bench mark & wind sock
- Fabrication and installation of all structural steel components necessary for pipe supports, Valve operating platforms & cross overs
- Construction of foundations for pipe supports, sleepers, platforms & Cross overs
- Construction of RCC drain pits
- Construction of flange pits and collection pits
- Construction of spill pit and hard stand for pig launcher
- Update / preparation of necessary construction drawings based on final Vendor data
- Necessary Earth work excavation and backfilling for foundations, trenches
- Necessary checking at site for any discrepancies for the work involved before starting the work

Nimr Production Station area

- Fabrication and installation of all structural steel components necessary for pipe supports, Valve operating platforms & cross overs
- Construction of foundations for pipe supports, sleepers, platforms & Cross overs
- Construction of RCC drain pits
- Construction of flange pits and collection pits
- Construction of spill pit and hard stand for pig launcher
- Update / preparation of necessary construction drawings based on final Vendor data
- Necessary Earth work excavation and backfilling for foundations, trenches
- Necessary checking at site for any discrepancies for the work involved before starting the work

Off-plot area

- Construction of new culverts including earth filling
- Necessary Earth work excavation and backfilling for foundations
- Necessary checking at site for any discrepancies for the work involved before starting the work

3.2 Construction Drawings update

Construction drawings were prepared based without Vendor information. Based on final information, any update or new drawings needs to be prepared, it shall be done by the Contractor.

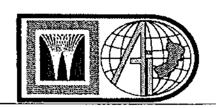
All engineering work shall be done as per PDO SP requirements.

3.3 Structural Steel Works

All structural steel for pipe supports, platforms, ladders & cross over shall be fabricated in fabrication yard. Fabrication shall be done as shown in the construction drawings listed in Appendix.

Handrail shall be provided as per drawing for all platforms. For typical grating and hand railing details, refer to drawings listed in Appendix.

All pipe supports structural members shall be as per details shown on drawings given in Appendix.



Prior to fabrication, contractor shall check at site for any discrepancies and make necessary modifications to suite site conditions.

All Structural steel fabrication and erection shall be carried out as per SP-1279 Section G. Corrosion protection shall be as specified in SP-1246.

3.4 Concrete Works for pipe supports, platforms, crossovers and sleepers

All foundations for platforms, pipe supports, crossovers and sleepers shall be constructed as per the drawings. For location of foundations and sleepers, refer foundation location plan drawings. If in-situ casting of concrete foundations proves economical, then they can be cast in-situ, however loading of pipes on supports shall be allowed only after the concrete is fully cured.

All foundation works shall be protected with protective coating as indicated in the drawings. The protective membrane shall be with Fosroc 'Nitocote PE 135' in 2 coats with glass mat or equivalent on bottom and sides of foundations.

The foundations are located within the existing facility. Hence before constructing the foundations, required space & under ground clearance for the foundation at site to be verified by the Construction Contractor.

Contractor to check and ascertain under ground cables. All earthing cables, if any, shall be suitably re-routed to install foundations.

All earthworks necessary for the installation of foundations and sleepers are deemed to be included in this scope of work.

All concrete works shall be carried out strictly in accordance with SP-1279 Section D.

All earth works shall be carried out as per SP-1279 Section C.

3.5 Drain Pit

Concrete drain pit, flange pit & collection pit shall be constructed as per drawings listed in Appendix. Outside surface of pit shall be protected with 2 coats of Fosroc's 'Nitocote PE 135' with glass mat or equivalent. Suitable manhole cover, for accessing the pit, shall be provided.

Excavation, backfilling & compaction required for construction of pit shall also form a part of this scope.

All concrete works shall be carried out strictly in accordance with SP-1279 Section D.

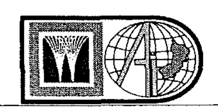
All earth works shall be carried out as per SP-1279 Section C.

3.6 Flange pit and collection pit

Flange pit wall shall be constructed with concrete hollow block work and base concrete slab with mesh reinforcement. The collection pit wall shall be constructed with solid concrete block work and base concrete slab. Outside surfaces of pits shall be protected with 2 coats of Fosroc's 'Nitocote PE 135' with glass mat or equivalent. For details, refer drawings listed in Appendix.

3.7 Spill pit and hard strand for Launcher / Receiver

The spill pit and hard stand is provided to contain the spillage expected during the pigging operation. Outside surface of pit shall be protected with 2 coats of Fosroc's 'Nitocote PE 135' with glass mat or equivalent. The pit shall be constructed as per the details shown on the drawings listed in Appendix.



3.8 Culverts

In the off-plot area, new concrete culverts are provided to facilitate new pipe crosses the existing road and to protect existing pipelines. Contractor shall verify the existing buried pipeline top elevation, prior to construction. Before starting the construction of culvert, required space & under ground clearance for the foundation at site shall be verified by the Construction Contractor. Due to culvert installation, existing roads shall be modified as shown in the construction drawings.

All concrete works shall be carried out strictly in accordance with SP-1279 Section D.

All earth works shall be carried out as per SP-1279 Section C.

3.9 Excavation and Backfilling

Earthwork required for the construction of foundations, pits and grade slab shall be carried out and blinding concrete laid to level for the construction works. Care shall be taken not to damage any underground pipes and cables. After the completion of foundations including curing, the sides shall be back filled and compacted. All earth works shall be carried out as per SP-1279 section C.

Prior to the excavation for foundations, Contractor to check the under ground cables with cable detectors and the same shall be protected during the construction.

4.0 MECHANICAL

4.1 General

All the Mechanical work shall be carried out in accordance with the relevant drawings listed under Appendix-1 of this document & relevant Company standards such as Shell DEPs, PDO SPs / ERDs, standard drawings listed elsewhere in this document

The Mechanical / piping Scope of Work shall include, but not be limited to the following:

4.2 Piping

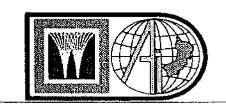
The Piping Scope of Work shall include, but not be limited to the following:
The Demolition and Construction scope of work shall be carried out in accordance with the Piping G.A drawings, Isometric drawings and Tie-in-schedule (Refer under this attached **Document control index**).

The contractor shall ensure that the following activities carried out during the work:

a) **Piping spool fabrication shall be started only after field verification of actual dimensions with the isometrics and piping General Arrangement drawings provided and checking site conditions.**
b) Piping material to be re-used shall be identified and shifted to the contractor store.
c) The contractor shall complete testing, coating and painting of piping spools and keep ready with proper identification/ mark up for erection at the time of shut down.
d) Ensure the positive isolation / Blinding of the process piping before and after demolition of piping.
e) Locations of supports are to be as per piping General Arrangement drawings provided.

The mechanical work shall include, but not be limited to, the following:

- Demolition of existing piping, wherever specified.



- Pre-fabrication and Installation of piping.
- Non-destructive testing of piping.
- Coating and Painting.
- Flushing and hydrostatic testing.
- Bolting and torquing

For all the specifications, codes and standards indicated in this section, latest editions shall be followed. For all the drawings, latest revisions of NIMR Production station (NRPS), Piping demolition drawings, GA drawings and Isometric drawings shall be followed.

4.3 Pre-Fabrication and Installation of Piping

The Contractor's scope of work includes the following activities of on-plot piping inside NIMR Production Station (NRPS) that needs to be carried out during Shut down.

- Pre-Fabrication and supply in accordance with the drawings listed in Document Control Index attached with Appendix-1 and standards listed in Section 11.
- Testing of the spools.
- Installation of spools as indicated in the above drawings.
- Provision of temporary supports, if any applicable for Long Spools or Short spools shall be provided wherever necessary.

4.4 Tie-in schedule

Tie-in of the existing lines and the new flanged spool pipes shall be done as per drawings PEFS, Construction piping Plans, Isometric drawings and tie-in schedule.

4.5 Non Destructive Testing of Piping

Prefabrication, welding and NDT of spools shall be carried out in accordance with PDO SP-1173 and SP-1176. Non-destructive examination shall be carried out in accordance with SP-1176.

4.6 Coating & Painting of Piping

External Painting and internal coating shall be carried out in accordance with SP-1246 (part 1 to part 5).

4.7 Bolt Torquing and tensioning

Bolt torquing and tensioning shall be carried out in accordance with SP-2020. When the bolt tightening procedure is completed, to prevent corrosion a liberal coating of grease should be applied to the nuts up to the back of the flange, and to the stud ends protruding from the nuts. Bolt Tension Certificate (Appendix 8) to be prepared and included in final test pack.

4.8 Flushing & Hydro Testing of Piping

The Design Pressure of the piping scope of work is 9550 Kpa (g) at 82°C. The Design Temperature is 5°C (Lower) and 60°C (Upper).

Hydro testing of the piping shall be carried out in accordance with SP-2051.

After Flushing, a preliminary leak testing (Nitrogen/Pneumatic) shall be carried out at a very low pressure (less than 200 kPa) for gross leak identification prior to a hydrostatic test in accordance with Section 5.2.5 of SP-2051, if required.

All piping shall be pressure tested in accordance with SP-2051, Section 5.0, to the pressure indicated on the isometric.

All equipment, consumables and fittings required for flushing and testing, including test medium shall be supplied by the Contractor. At the end of hydro testing, the Contractor shall make sure that the new pipe work is free of water and the water is disposed in an environmentally friendly way without spillage.
The Contractor shall supply temporary gaskets for testing the piping. High point vents and low point drains are already shown in the isometric drawings. However the Contractor shall review the same and if any additional vents and drains are required based on the Contractor's testing program, they shall be included in the Contractor's scope, including the supply of required material.
The quality of test water shall be in accordance with Appendix A of SP-2051. The Company's approval will be required for using any other test medium.

4.9 Leak Testing

A Nitrogen leak test shall be carried out at a design pressure followed with Bubble test, in accordance with SP-2051.

5.0 ELECTRICAL

5.1 GENERAL

Electrical scope of work includes the following activities in accordance with the details indicated in the drawings. All materials required to complete the work as indicated in MTO shall be supplied by WPAI. However the materials which are not identified specifically but required for satisfactory completion of these activities are deemed to be included in the scope.

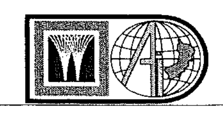
- Provide power supply to LV Distribution board G-6951 located in sludge pit area.
- Provide power supply to new sludge oil Transfer pump P-48357/48358, 48359/48360 and flow meters.
- Provide lighting and small power requirement for the new pump shed etc.
- Provide power supply to flood lights.
- LV Cable laying & terminations
- Earthing and bonding system of the entire new installations.

Contractor shall take necessary precautions while carrying out the construction, since the new equipment are to be installed in the existing 'live' facilities. Contactor should follow the permit to work (PTW) system.

Competent Electrical Person (CEP) & Senior Authorised Electrical Person (SAEP) should be made available by the contractor.

5.2 EQUIPMENT INSTALLATION:

- Installation, testing & Pre-commissioning of the following ,company procured equipment to feed power supply to LV distribution board ,sludge transfer pump and dosing pump (The contractor shall provide installation materials required for the new equipment).
  - Installation of 415V Junction box 48-JB-001, Refer drg. NIM-4-6411-001.
  - 415V LV Distribution Board. Refer drg. NIM-4-6411-001.
  - Sludge oil Transfer pump motors P-48357/48358, Oxygen scavenger dosing pump P-48359/48360, Refer drg. NIM-4-6411-001& NIM-4-6416-003.
  - Installation of flood light poles. Refer drg. NIM-4-6416-003 & NIM-4-6412-001 DQ.



5.3 CABLE LAYING & TERMINATIONS

Laying & Termination of LV power & control cables through underground cable trenches between existing feeder pillar substation MDB-1 & New LV distribution board as detailed in cable trench layout & section drawings NIM-4-6416-001, NIM-4-6416-002 & NIM-4-6416-003. Refer civil construction scope of work for excavation & back filling of cable trenches. The materials required for cable installation in the underground trench shall be supplied and installed in accordance with the Company standard drawings. Existing cable route shall be identified and pipe sleeves at road crossings for the new cables shall be provided.

Cable rising from underground trench to the panels shall be installed by providing required cable support. These cables shall be protected by PVC pipes. The terminations shall be carried out with cable termination kits, reference shall be made to the equipment terminal details in the equipment vendor drawings for the requirement of lugs.

Contractor shall check the drum length of the cables and supply if any cable joint required for the new cables. Cable loop shall be provided at the cable straight through joint (5m loop). Loop shall be provided within the trench. Concrete cable markers shall be supplied & installed by contractor along with the cable trenches in accordance with PDO standard drawing STD-4-0106-001.

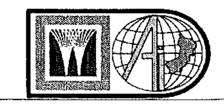
The complete approval procedure for cable jointers and terminators used on this project including all testing and certification shall be in accordance with the Company standards and procedures as per specification SP-1099.

Contractor shall follow cable route & section drawings for identification of no. of cables running through each section of the cable trenches. Laying and termination of cables include the following:

- LV cables from LV switchboard MDB-1, located in the existing feeder pillar Substation-5 to new LV distribution board G-6951. Refer NIM-4-6411-001.
- LV cables from LV distribution board G-6951 to Sludge oil Transfer pump motors P-48357/48358, Oxygen scavenger dosing pump P-48359/48360, Refer drg. NIM-4-6411-001& NIM-4-6416-003.
- LV cables from LV distribution board G-6951 to pump shed lighting, pump shed socket outlet for auxiliary.
- Laying of 4Cx10sq.mm. XLPE/SWA/PVC cable for flood lighting through underground cable trench between LV distribution board G-6951 to lighting junction boxes and further cabling to fixtures Refer drg.NIM-4-6416-003 & NIM-4-6412-001 DQ
- The cables shall be laid directly buried in the underground trench as indicated in cable routing/cable trench/cable tray layout drawings.
- Refer cable schedule drawing no. NIM-4-6413-001-DQ for LV Power cable terminations and for control cable terminations refer control wiring diagrams NIM-4-6420-001-DQ & NIM-4-6421-001-DQ. Contractor shall provide additional wiring within the panels as indicated in the interconnection drawings to carryout minor wiring modification required for the project.

5.4 EARTHING

Earthing and bonding system of the entire new installations including supply and installation of new earth pit, earth busbar, interconnection of new equipment with earth grid, new earthing ring, interconnection of new earthing ring with existing earth grid, etc. as per company std drawings and as detailed in earthing layout drawings NIM-4-6418-001-DQ.The contractor shall refer the equipment vendor drawings while terminating the earthing conductors. The scope also includes earthing of supporting steel structures at various locations as per PDO Specification SP-1109. The contractor shall supply all the necessary hardware required for the earthing installation.



Where the screens of the cables are used for earthing, these shall be sleeved with green/yellow PVC sleeves, the supply of the same and other earthing accessories which are not listed in the MTO is included in the contractor's scope.

5.5 LV SWITCHBOARD COMPONENTS

Existing spare feeders available in the LV switchboard MDB-1 shall be used to provide power supply for the new LV distribution board. The contractor shall install Loose electrical components (supplied as project materials) in the existing spare feeder of LV switchboards with required name plate tags as indicated in the single line diagrams and subsequently testing of the complete draw out shall be carried out.

5.6 WINPCS

WinPCS package is prepared for this project. Contractor shall include for completion of data required for WinPCS, under their scope of work.

Contractor to comply with PDO Procedure PR-1169 Initial Start Up Procedure, where relevant to the scope of work, the key elements as highlighted below, but not limited to the following:-

Windows based Project Completion and Certification System, i.e. WinPCS, is mandatory for all PDO construction/commissioning contracts. As such, it is to be used also for this project. WinPCS is used to control and monitor the mechanical completion, pre-commissioning, commissioning and hand-over of this project against the components introduced (or modified) in the design phase by the Design Consultant. It improves and maintains the quality, consistency and completeness of construction, pre-commissioning and commissioning. It also facilitates consistent progress monitoring and reporting from construction to commissioning, and provides a tool for the communication and management of engineering queries and punch-list items. Implementation of this WinPCS shall be in line with PR-1561 WinPCS Procedure.

Each component/item is assigned the required, WinPCS generated, mechanical completion and commission check sheets is issued to construction contractor as separate document.

Commissioning plan which follows the Index in Appendix 1 of PR-1169, with the necessary input from production support team and site commissioning engineer, is issued separately. Prior to start of construction, the Project Engineer shall coordinate the refinement of the commissioning plan to include step-by-step commissioning procedures. Each component/item identified shall be installed and commissioned as per the relevant PDO/project standards and specifications and verified against the applicable WinPCS check sheets.

Throughout the construction, pre-commissioning and commissioning phases, WinPCS check-sheets shall be completed at site by the construction contractor and/or commissioning engineer, as applicable, and their status shall be entered regularly (at most weekly) into the system by the Contractor's WinPCS coordinator to enable actual progress to be monitored.

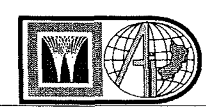
A structured and sequential handover from each phase to the next , using WinPCS generated checksheets and handover certificates, in line with Section 2.4 of PR-1169, shall be carried out as follows:-

Prior to Pre-commissioning activities the Construction Co-ordinator with the discipline engineers should ensure that the construction check sheets and construction handover certificates have all been completed and their status updated in the WinPCS database by the Contractor.

Prior to Commissioning activities commencing, the Commissioning Engineer with the discipline engineers should ensure that the pre-commissioning check sheets and handover certificates have all been completed and their status updated in the WinPCS database by the Contractor.

Prior to system handover to operations, the Commissioning Engineer shall coordinate with both the Construction Coordinator and Project Engineer to ensure that the system acceptance certificate and associated system exception list are compiled and signed by Delivery Team Leader.

Construction, commissioning and final handover certificates will be generated through WinPCS and will be available from the WinPCS coordinator/construction supervisor/commissioning engineer on completion/acceptance of all 'A' punch list items and the required WinPCS check sheets. Punch or exception list items fall into two categories, as follows:-



A category : Items that must be completed before handover can proceed

B category: Items that will not affect the safe progression of commissioning activities but shall be completed before Full Acceptance

5.7 PRE-COMMISSIONING & TESTING

The contractor's scope includes testing, pre-commissioning and assistance during commissioning for the modified plant sections. The contractor shall test and pre-commission the complete installation in accordance with the requirements of Company Specifications.

The contractor shall be responsible for maintaining complete documentation of all tests carried out and these shall be submitted to the Company upon completion of pre-commissioning activities. The Company Site Representative shall approve the format for the test packages.

The contractor shall ensure that all the work carried out by him is free from defects. The contractor shall rectify any defects found during testing and commissioning immediately.

5.8 TIE-IN AND SHUTDOWN REQUIREMENTS

The construction contractor shall follow/maintain his schedule in accordance with the planned shutdown of the facilities. The contractor shall liaise with Company construction supervisor for shutdown requirement.

The contractor shall submit a detailed construction/demolition procedure to Company Site Representative for approval from Company 'Operations' Group.

5.9 MATERIALS

5.10 PROJECT MATERIALS

WPAI procured materials as per the drawing control index NIM-1-2635-400-DQ, Appendix-1.

Other materials which are not listed above but are required for the completion of the Work in accordance with the specifications and drawings (inclusive of consumable) are to be procured separately by site intend as per the contract norms.

All materials shall be in accordance with the Company standards and specifications. Where material in accordance with Company standards and specifications is not available, the contractor shall propose equivalent alternatives for Company approval.

5.11 REMOVED MATERIALS

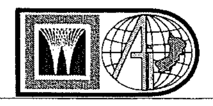
All the removed materials shall remain the property of the Company and the contractor shall not use these materials under any circumstances. The contractor shall remove, load and transport the redundant materials, from the work site to Company designated stores in accordance with the instructions of the Company Site Representative.

5.12 DRAWINGS AND DOCUMENTATION

5.13 CONSTRUCTION DRAWINGS

The Work shall be carried out in accordance with referred standard drawings and the construction drawings listed under Document Control Index as Appendix-1. This includes vendor packages listed separately as Appendix-2.

Any detail of work not indicated in the drawings but obviously necessary for a good and proper workman-like construction shall be deemed to be part of the Work and as such shall be included in the contractor's Scope of work. The contractor shall notify the Contractor of such discrepancies or any other ambiguity, prior to the start of fabrication/construction to allow the Contractor to detail and specify requirements.



5.14 AS-BUILT DRAWINGS

The contractor Scope of Work includes provision to the Contractor of two sets of marked up "As-Built" prints. These prints shall be submitted for Company approval one week after the completion date. Any subsequent modifications shall be marked separately.

5.15 CODES AND STANDARDS

The contractor shall execute the work in accordance with Company codes and standards. The order of precedence shall be as follows:

- Decrees and Laws of the Sultanate of Oman.
- Specifications (SPs)
- SIPM Design and Engineering Practices (DEPs).
- International Standards.
- Vendor Procedures.

Where conflicts arise within codes and standards, the contractor shall seek a ruling from the Company through the Company Site Representative.

No deviation from codes and standards will be permitted without prior written approval from the Company.

The Codes and Standards listed below are deemed to be the most relevant.

6.0 CONTROL & AUTOMATION

The Instrumentation scope of work includes installation, calibration, testing, loop checking and pre-commissioning of complete instrumentation system as required for the completion of On-Plot Header Replacement Project.

The Scope of Work covers construction activities for Control & Automation works in accordance with the approved drawings, specifications and requirements laid down in the EM contract C31/0606. The Scope of Work as a minimum, shall include, but is not limited to the following:

- Calibration, Fabrication & Instrument installation.
- Field Multicore and Branch Cable Laying
- Continuity & Loop Check
- Supply of all equipment, tools and tackles for fabrication and construction
- All C&A works in the Control Room as per requirements of this project based on the Approved for Construction Drawings/documents.
- Preparation of as-built (red line) mark-ups.
- Loop Check Support
- Pre-commissioning
- Commissioning Assistance

The following sections describe the overall scope only and the actual extent of work shall be as per the construction drawings listed in document control index attached as Appendix-1.

Document Control Index (DCI) or Master Document Index (MDI) for C&A works is included in this document for reference as Appendix 1 and the MTO for reference is attached as Appendix-II. DCI is a

dynamic list and is subject to change. All construction drawing are issued to site for construction. Revision numbers, wherever shown, against Drawings and documents in this document need not be the latest. Refer Latest Revisions of drawings and documents and DCI.

While executing, in case of any doubt, technical queries shall be raised to coast engineering department.

7.0 PRE-COMMISSIONING & TESTING

The Contractor's scope includes testing, pre-commissioning and assistance during commissioning for the modified plant sections. The Contractor shall test and pre-commission the complete installation in accordance with the requirements of Company Specifications SP-2051 and DEP 62.10.08.11, Nov 03 (Inspection & Functional testing of Instrument)

The Contractor shall be responsible for maintaining complete documentation of all tests carried out and these shall be submitted to the Company upon completion of pre-commissioning activities. The Company Site Representative shall approve the format for the test packages.

The Contractor shall ensure that all the work carried out by him is free from defects. Contractor shall rectify any defects found during testing and commissioning immediately.

8.0 DRAWINGS AND DOCUMENTATION

8.1 Construction Drawings

The Work shall be carried out in accordance with referred standard drawings and the construction drawings listed under Document Control Index as Appendix-1.

Any detail of work not indicated in the drawings but obviously necessary for a good and proper workman-like construction shall be deemed to be part of the Work and as such shall be included in the Contractor's Scope of work. The Contractor shall notify the Company of such discrepancies or any other ambiguity, prior to the start of fabrication/construction to allow the Company to detail and specify requirements.

8.2 As-Built Drawings

The Contractor Scope of Work includes provision to the Company of two sets of marked up "As-Built" prints. These prints shall be submitted for Company approval one week after the completion date before commissioning. Any subsequent modifications shall be marked separately. All the As-built drawings shall be Auto CAD & submitted as per company procedure. WinPcs update shall be done on daily basis during precommissioning and commissioning.

9.0 CODES AND STANDARDS

The Contractor shall execute the work in accordance with Company codes and standards. The order of precedence shall be as follows:

- Decrees and Laws of the Sultanate of Oman.
- PDO Engineering Reference Documents (ERDs), Specifications (SPs)
- SIPM Design and Engineering Practices (DEPs).
- International Standards.
- Vendor Procedures.

Where conflicts arise within codes and standards, the Contractor shall seek a ruling from the Company through the Company Site Representative.

No deviation from codes and standards will be permitted without prior written approval from the Company.

The Codes and Standards listed below are deemed to be the most relevant for respective disciplines.

9.1 Control & Automation

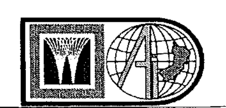
DEP62.10.08.11 GEN	Inspection & Functional Testing of Instruments.
DEP62.37.10.12 GEN	Instrument Installation Procedure.
DEP32.37.00.33 PDO	Mounting Of Plant Instruments.

9.2 Mechanical Engineering:

PDO-ERD-26-02	Construction specification for Oil, Gas and utility Facilities
ERD-43-15 (Nov '98	Specification of Polyethylene Liners in Carbon Steel Flow lines and Pipelines.
SP-1166	Specification For Identification Of On-Plot Pipe Work.
SP-1171	Specification for Quality Assurance of Design, Construction and Engineering Works.
SP-1173	Specification for welding of on-plot CRA pipe work (Amendments/Supplements to ASME B31.3)
SP-1176	Non Destructive Examination (Amendments / Supplements to ASME BPV Section V).
SP-1187	Application and Selection of Standard Pipe Supports
SP-1239	Specification for Lifting Equipment and Lifting Operations.
SP – 1246 (Part 1 to 5)	Specification for Painting and coating for Oil & Gas Production facilities
SP-2020	Specification for Flange connections: Bolt Torquing and Tensioning.
SP-2051	Specification for flushing, pressure testing, pickling, sensitive leak testing of mechanical equipment & Piping.
PR-1272	Standard welding procedure qualification records for on-plot pipe work.
DEP 31.38.01.31	Shop and Field Fabrication of Piping.
DEP 31.38.01.15	Piping Classes – Exploration and Production

9.3 Civil Engineering

PDO STANDARDS	
GU-628	Guide to civil & Buildings standard drawings
GU-629	Guidelines for Application and Selection of Standard Pipe Supports
GU-631	Guide line for Sunshade – Spec, Design requirement & Std. dwgs.

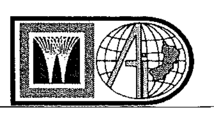


SP-1187	Specification for Application and Selection of Standard Pipe Supports
SP-1275	Specification & criteria for Design of Civil & Building works
SP-1281	Engineering Specification for Road works
SP-1284	Specification for Sign & Sign boards – Standard sign catalogue
SP-1297	Specification for Civil & Building Construction- Excavation & Earthworks
SHELL GROUP STANDARDS	
DEP 34.00.01.30	Structural Design & Engineering
DEP 34.13.20.31	Road paving, surfacing, slope protection & Fencing
DEP 34.19.20.31	Reinforced Concrete Structures
DEP 34.28.00.31	Steel Structures
INTERNATIONAL CODES & STANDARDS	
BS 5950	Structural Use of Steel Work in Building
BS 8110	Structural Use of Concrete

ELECTRICAL ENGINEERING Standards and Specifications :

PDO-SP-1099	Electrical Installation Practice
PDO-SP-1103	Electrical Engineering Guidelines Amends/Supplement to DEP 33.64.10.10
PDO-SP-1104	Electrical Safety Rules
PDO-SP-1105	Electrical Standard Drawings list
PDO-SP-1107	Electrical Protection systems
PDO-SP-1108	Electrical Safety Operation Procedures
PDO-SP-1109	Specification for Earthing and bonding.
PDO-SP-1100	Specification for Testing & Commissioning of Electrical Equipment
PDO-SP-1171	Specification for Quality assurance of Design, Construction and Engineering works
DEP 33.64.10.10	Electrical Engineering Guidelines

DEP 63.10.08.11 Field Commissioning & Maintenance of Electrical Installations & Equipment.



APPENDIX - 1

DOCUMENT CONTROL INDEX

Control & Automation

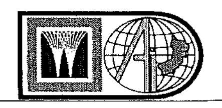
Item#	Document No	Description	Rev#
1	NIM-5-4736-DQ	Cable Block Diagram	A
2	NIM-5-4737-DQ	MTO for Installation Items	A
3	NIM-5-4738-DQ	Instrument Impulse lines & Electropneumatic Hook-Up.	A
4	NIM-5-4739-DQ	Instrument Name Plate	A
5	NIM-5-4740-001-DQ	Instrument Location Layout	A
6	NIM-5-4741-001-DQ	Trenches of Instrument Cables	A
7	NIM-5-4742-DQ	ICTD Junction Box	A
8	NIM-5-4743-DQ	Instrument Eng. Data Sheets	A
9	NIM-5-4744-DQ	Trip & Alarm Settings	A
10	NIM-5-4745-001-DQ	Instrument loop Diagram	0
11	NIM-5-5001-001-DQ	Trenches of Instrument Cables	A
12	NIM-5-5005-001	Cause & Effect Diagrams	B
13	NIM-5-5005-002	Cause & Effect Diagrams	A
14	NIM-5-5005-007	Cause & Effect Diagrams	A
15	NIM-5-5014-001-DQ	Instrument Location Layout	A
16	NIM-5-5015-001-DQ	Instrument Location Layout	A
17	NIM-5-5016-001-DQ	Instrument Location Layout	A
18	NIM-5-5016-002-DQ	Instrument Location Layout	A
19	NIM-5-5043-DQ	ICTD Junction Box	A
20	NIM-5-5044-DQ	Inst. Cable Schedule	A
21	NIM-5-5047-001-DQ	Control Room Equipment Layout	A
22	NIM-5-5065-DQ	Trip & Alarm Settings	A
23	NIM-5-5271-DQ	Instrument Eng. Data Sheets	A
24	NIM-5-5588-DQ	SGS Functional Logic Diagram	0
25	NIM-5-5589-DQ	ICTD Signal Distrubution Cabinet	A
26	NIM-5-5591-DQ	ICTD System Cable	A
27	NIM-5-5594-DQ	DCS loop Diagram	A
28	NIM-5-5596-DQ	SGS loop Diagram	A
29	NIM-5-6079-DQ	DCS Functional Logic Diagram	0



30	NIM-5-6531-DQ	Functional Logic Diagram-Sludge Pit	0
31	PAIP00405/IO/5001	Instrument I/O List	A

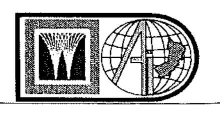
ELECTRICAL

Item#	Document No	Description	Rev#
1	NIM-4-2801-DQ	415V SLD main distribution board,MDB-1	B
2	NIM-4-2815-002-DQ	SLD OF MDB-1	A
3	NIM-4-2817-001-DQ	Cable layout and DB location	A
4	NIM-4-6411-001-DQ	415V SLD PDB	B
5	NIM-4-6412-001-DQ	Schematic lighting diagram	B
6	NIM-4-6413-001-DQ	LV Cable schedule cover sheet	B
7	NIM-4-6413-002-DQ	LV Cable schedule Index sheet	B
8	NIM-4-6413-003-DQ	LV Cable schedule	B
9	NIM-4-6415-001-DQ	Overall cable route layout	A
10	NIM-4-6415-002-DQ	Cable route layout at sludge pit area	A
11	NIM-4-6416-001-DQ	Overall cable trench layout	A
12	NIM-4-6416-002-DQ	Cable trench layout SWTP	A
13	NIM-4-6416-003-DQ	Cable trench layout at sludge pit area	A
14	NIM-4-6417-001-DQ	Cable trench layout sections	A
15	NIM-4-6418-001-DQ	Earthing layout at sludge pit area	A
16	NIM-4-6420-001-DQ	Electrical control diagram LV motor above 5.5Kw.	A
17	NIM-4-6421-001-DQ	Electrical control diagram LV motor below 5.5Kw.	A
31	PAIP00405/MTO/401	Electrical bulk MTO	B



APPENDIX – 2

MATERIALS LIST



PAIP00405- Nimr Sludge Pit Up gradation

MTO- Electrical

The preliminary material take off (MTO), Bill of Quantities (BOQ) and quantity in BOQ or MTO provided with tender package shall not be considered for cost estimation. The MTO and BOQ provided with tender do not necessarily contain all the items or material required to complete the scope. The preliminary material take off (MTO), Bill of Quantities (BOQ) and quantity in BOQ or MTO provided with tender package are prepared prior to freezing the design and are preliminary.

· approval shall be taken from Design Engineer prior to bidding, order placement and manufacturing.

Serial Number	Type	SAP #	MESC #	WPAI Spec #	AVME #	Description	UOM	Total Quantity	Rev #	Additional Qty. to be Procured	Remarks
	Power DB					415V, 125A, 3Ph+N, 50Hz, 10kA for 1 Sec. Outdoor Distribution Board	Each	1	Rev. A		PAIP00405/RQ/401
1	Cable: LV	1000047762	68.44.14.459.1		4.15.1	LV Cable: 4Cx240 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Metre	1800	Rev. A		500mts/Drum size
2	Cable: LV	1000395309	- -		4.15.1	LV Cable: 4Cx50 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Metre	50	Rev. A		
3	Cable: LV	1000047742	68.44.14.331.1		4.15.1	LV Cable: 3Cx16 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Metre	350	Rev. A		
4	Cable: LV	1000047741	68.44.14.309.1		4.15.1	LV Cable: 3Cx10 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Metre	1400	Rev. A	Cable shall be supplied in two lengths (700 mts) olny.	
5	Cable: LV	1000047740	68.44.14.307.1		4.15.1	LV Cable: 3Cx6 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Metre	150	Rev. A		
6	Cable: LV	1000395303	- -		4.15.1	LV Cable: 2Cx10 sq.mm, 600/1000V, Flexible PVC Copper cable	Metre	50	Rev. A		
7	Cable: LV	1000047735	68.44.14.201.9		4.15.1	LV Cable: 2Cx6 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Metre	300	Rev. A		
8	Cable: LV	1000047763	68.44.14.703.1		4.15.1	LV Cable: 7Cx2.5 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Metre	600	Rev. A		
9	Cable: LV	1000047751	68.44.14.403.1		4.15.1	LV Cable: 4Cx2.5 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Metre	300	Rev. A		
10	Cable: LV	1000047738	68.44.14.303.1		4.15.1	LV Cable: 3Cx2.5 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Metre	100	Rev. A		
11	Cable Joint	1000754004	- -		4.16.1	Cable Jointing Kit suitable for 4Cx240 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Each	8	Rev. A		
12	Cable Gland	1000048326	68.80.58.744.1		4.16.5	Cable Gland suitable for 4CX240 sq.mm Cable (M75)	Each	3	Rev. A		
13	Cable Gland	1000048322	68.80.58.736.1		4.16.5	Cable Gland suitable for 4Cx50 sq.mm Cable (M32)	Each	3	Rev. A		
14	Cable Gland	1000048321	68.80.58.734.1		4.16.5	Cable Gland suitable for 3Cx16 sq.mm Cable (M25)	Each	6	Rev. A		
15	Cable Gland	1000048321	68.80.58.734.1		4.16.5	Cable Gland suitable for 3Cx10 sq.mm Cable (M25)	Each	20	Rev. A		
16	Cable Gland	1000048320	68.80.58.732.1		4.16.5	Cable Gland suitable for 3Cx6 sq.mm Cable (M20)	Each	10	Rev. A		
17	Cable Gland	1000048320	68.80.58.732.1		4.16.5	Cable Gland suitable for 2Cx10 sq.mm Cable (M20)	Each	4	Rev. A		
18	Cable Gland	1000048320	68.80.58.732.1		4.16.5	Cable Gland suitable for 2Cx6 sq.mm Cable (M20)	Each	6	Rev. A		
19	Cable Gland	1000048320	68.80.58.732.1		4.16.5	Cable Gland suitable for 7Cx2.5 sq.mm Cable (M20)	Each	10	Rev. A		
20	Cable Gland	1000048320	68.80.58.732.1		4.16.5	Cable Gland suitable for 4Cx2.5 sq.mm Cable (M20)	Each	20	Rev. A		
21	Cable Gland	1000048320	68.80.58.732.1		4.16.5	Cable Gland suitable for 3Cx2.5 sq.mm Cable (M20)	Each	40	Rev. A		
22	Lock Nut	1000048282	68.80.58.090.9		4.16.5	Lock Nut suitable for M75 Gland	Each	3	Rev. A		
23	Lock Nut	1000048278	68.80.58.076.9		4.16.5	Lock Nut suitable for M32 Gland	Each	3	Rev. A		
24	Lock Nut	1000048277	68.80.58.072.9		4.16.5	Lock Nut suitable for M25 Gland	Each	26	Rev. A		
25	Lock Nut	1000048276	68.80.58.068.9		4.16.5	Lock Nut suitable for M20 Gland	Each	90	Rev. A		

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Serial Number	Type	SAP #	MESC #	WPAI Spec #	AVME #	Description	UOM	Total Quantity	Rev #	Additional Qty. to be Procured	Remarks
26	PVC Shroud	1000048262	68.80.56.924.9		4.16.5	PVC Shroud type-F suitable for M75 Gland	Each	3	Rev. A		
27	PVC Shroud	1000048258	68.80.56.916.9		4.16.5	PVC Shroud type-C suitable for M32 Gland	Each	3	Rev. A		
28	PVC Shroud	1000048257	68.80.56.914.9		4.16.5	PVC Shroud type-B suitable for M25 Gland	Each	26	Rev. A		
29	PVC Shroud	1000048256	68.80.56.912.9		4.16.5	PVC Shroud type-A suitable for M20 Gland	Each	90	Rev. A		
30	Earth Tag	1000255978	- -		4.16.5	Earth Tag suitable for M75 Gland	Each	3	Rev. A		
31	Earth Tag	1000223714	- -		4.16.5	Earth Tag suitable for M32 Gland	Each	3	Rev. A		
32	Earth Tag	1000223710	- -		4.16.5	Earth Tag suitable for M25 Gland	Each	26	Rev. A		
33	Earth Tag	1000223708	- -		4.16.5	Earth Tag suitable for M20 Gland	Each	90	Rev. A		
34	Cable Lug	1000048099	- -		4.16.1	Cable Lug suitable for 240 sq,mm Cable	Each	10	Rev. A		
35	Cable Lug	1000048085	- -		4.16.1	Cable Lug suitable for 50 sq,mm Cable	Each	10	Rev. A		
36	Cable Lug	1000048084	- -		4.16.1	Cable Lug suitable for 16 sq,mm Cable	Each	20	Rev. A		
37	Cable Lug	1000048083	- -		4.16.1	Cable Lug suitable for 10 sq,mm Cable	Each	100	Rev. A		
38	Cable Lug	1000048081	- -		4.16.1	Cable Lug suitable for 6 sq,mm Cable	Each	40	Rev. A		
39	Cable Lug	1000048080	- -		4.16.1	Cable Lug suitable for 2.5 sq,mm Cable	Each	150	Rev. A		
40	Cable Acces.	1000048555	68.85.12.419.1		4.16.1	Electrical Insulation Tape Yellow, 6 Metre/Roll	Roll	20	Rev. A		
41	Cable Acces.	- -	- -		4.16.1	Pin type terminal blocks & Ferrules	Pkt	A/R	Rev. A		
42	Trench	1000047983	68.76.81.106.9		4.16.3	Underground Cable Tiles size 1000mm x 240mm x 6mm thick	Each	2700	Rev. A		
43	Trench	1000048548	68.85.12.356.9		4.16.3	Underground Warning Tape 150mm width, 365mts/Roll	Metre	2700	Rev. A		
44	Trench	1000048104	68.79.02.006.9		4.16.3	Plain Lead Strip Underground Cable Nos. 19mm x 1.6mm x 300mm Long, 11 Metre/Roll	Roll	10	Rev. A		
45	Trench	1000075844	- -		4.16.3	LV Cable Route Marker	Each	25	Rev. A		
46	Trench	1000048205	- -		4.16.3	100mm Dia uPVC Pipe	Metre	60	Rev. A		
47	Trench	- -	- -		4.16.3	150mm Dia uPVC Pipe	Metre	20	Rev. A		
						CABLE MARKER FOR ABOVE GROUND CABLE AS PER (STD-4-0108-001-4-E)					
48	Cable Acces.	1000521146	- -		4.16.3	Cable Tie, Black, Nylon, 368 x 3.6mm	Pocket	2	Rev. A		
49	Cable Acces.	1000535192	- -		4.16.3	4mm wide Nylon strapping Hellermann TY4-S1	Pocket	2	Rev. A		
50	Cable Acces.	- -	- -		4.16.3	Arrowtag Hellermann type AT3	Pocket	A/R	Rev. A		
51	Cable Acces.	- -	- -		4.16.3	Ovalgrip Marker Hellermann type H085	Pocket	A/R	Rev. A		
52	Cable Tray	1000069935	- -		4.20.5	75mm wide heavy duty return flange G.I. Cable Tray	Metre	25	Rev. A		
53	Cable Tray	1000069990	- -		4.20.5	Ventilated cover for 75mm wide Cable Tray	Metre	25	Rev. A		
54	Cable Tray	1000223944	- -		4.20.5	Cable Tie 240mm Length	Pocket	2	Rev. A		
55	Cable Tray	- -	- -		4.20.5	Nut, Bolt & Clamps for fixing Trays	Each	A/R	Rev. A		
56	Other	- -	- -		4.20.5	G.I. Trunking 75mm x 75mm	Metre	50	Rev. A		

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Serial Number	Type	SAP #	MESC #	WPAI Spec #	AVME #	Description	UOM	Total Quantity	Rev #	Additional Qty. to be Procured	Remarks
57	Other	- -	- -		4.20.5	20x20 Unistrut G.I. Slot Type / 12 Metre Length	Each	A/R	Rev. A		
58	Other	- -	- -		4.20.5	M6x30 Bolt (Bolt Head Half Round)	Each	A/R	Rev. A		
59	Other	- -	- -		4.20.5	M6 Spring Nut	Each	A/R	Rev. A		
60	Other	- -	- -		4.20.5	M25 PVC Gland	Each	A/R	Rev. A		
61	Earthing	1000047626	68.14.07.382.1		4.17.1	1Cx25 sq.mm Y/G Earth Cable	Metre	200	Rev. A		
62	Earthing	1000047627	68.14.07.392.1		4.17.1	1Cx70 sq.mm Y/G Earth Cable	Metre	2800	Rev. A		
63	Earthing	1000048060	68.78.90.426.1		4.17.1	Branch Connector suitable for 70/70 sq.mm	Each	10	Rev. A		
64	Earthing	1000048059	68.78.90.422.1		4.17.1	Branch Connector suitable for 70/25 sq.mm	Each	20	Rev. A		
65	Earthing	1000780669	- -		4.17.1	Earthing Terminal Lugs 1Cx70 sq.mm Cable (Y/G)	Each	10	Rev. A		
66	Earthing	1000780666	- -		4.17.1	Earthing Terminal Lugs 1Cx25 sq.mm Cable (Y/G)	Each	20	Rev. A		
67	Earthing	1000047994	68.77.02.126.9		4.17.1	Earth Boss	Each	20	Rev. A		
68	Earthing	1000048555	68.85.12.419.1		4.16.1	Electrical Insulation Tape Yellow, 6 Metre/Roll	Roll	2	Rev. A		
						STEEL EARTH PIT AS PER DRG, (STD-4-0310-001-4-F)					
69	Earthing	1000048666	68.89.20.148.9		4.17.1	Earth Inspection Pit, Steel housing & Cover	Each	8	Rev. A		
70	Earthing	1000707169	- -		4.17.1	Extensible earth rod,Dia 15mm x LG 1220mm	Each	104	Rev. A		
71	Earthing	1000707154	- -		4.17.1	Coupling screw,p-bz outer thread for 15mm	Each	96	Rev. A		
72	Earthing	1000707153	- -		4.17.1	Steel driving cap,hardened ,allow	Each	8	Rev. A		
73	Earthing	1000707170	- -		4.17.1	Tips, Hardened steel for 15mm driving tip	Each	8	Rev. A		
74	Earthing	1000047990	68.77.02.078.1		4.17.1	70 sq.mm two way through clamp	Each	8	Rev. A		
75	Earthing	1000048060	68.78.90.426.1		4.17.1	Branch connector 70/70 sq.mm	Each	8	Rev. A		
76	Earthing	1000047627	68.14.07.392.1		4.17.1	1C x 70 sq.mm Y/G Cable	Metre	120	Rev. A		
77	Earthing	- -	- -		4.17.1	Marconite	Pocket	80	Rev. A		
						EARTHING BUSBAR AS PER DRG, (STD-4-0303-001-4-D)					
78	Earthing	1000045040	67.28.36.188.1		4.17.1	950mm x 50mm x 10mm thick copper bar	Each	3	Rev. A		
79	Earthing	1000062976	81.26.25.112.1		4.17.1	M10 X 100mm Long rawlbolt or equal	Each	6	Rev. A		
80	Earthing	1000062970	81.04.62.188.1		4.17.1	M10 x 40mm Long brass nut and bolt	Each	60	Rev. A		
81	Earthing	- -	81.78.06.160.1		4.17.1	M10 Brass washer	Each	60	Rev. A		
82	Earthing	1000524103	74.13.08.026.1		4.17.1	25mm Dia galvanised line pipe	Metre	1.5	Rev. A		
83	Earthing	1000780666	- -		4.17.1	Cable Lugs 1Cx25 sq.mm Cable (Y/G)	Each	60	Rev. A		
84	Earthing	1000780669	- -		4.17.1	Cable Lugs 1Cx70 sq.mm Cable (Y/G)	Each	6	Rev. A		
						EARTHING DETAILS GATE & FENCE AS PER DRG, (STD-4-0306-001-4-D)					
85	Earthing	1000069880	68.01.23.052.9		4.17.1	Flexible Braid Jumper Burndy Type BG-12	Each	16	Rev. A		
86	Earthing	1000047993	68.77.02.106.9		4.17.1	Burndy Type GK 1826 earth clamp	Each	8	Rev. A		
87	Earthing	1000973324	74.86.05.215.1		4.17.1	25mm Heavy gauge PVC Pipe	Metre	4	Rev. A		
88	Earthing	1000049087	70.32.65.025.1		4.17.1	25mm Saddle	Each	8	Rev. A		
89	Earthing	1000048059	68.78.90.422.1		4.17.1	70/25 sq.mm branch connector	Each	8	Rev. A		

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Serial Number	Type	SAP #	MESC #	WPAI Spec #	AVME #	Description	UOM	Total Quantity	Rev #	Additional Qty. to be Procured	Remarks
90	Earthing	1000047626	68.14.07.382.1		4.17.1	1Cx25sq.mm Y/G Earth cable	Metre	24	Rev. A		
91	Earthing	1000047994	68.77.02.126.9		4.17.1	Earth Boss	Each	16	Rev. A		
92	Earthing	1000063796	81.41.17.018.1		4.17.1	M10 Carbon Steel Nut	Each	16	Rev. A		
						EARTHING DETAILS FENCE POST AS PER DRG, (STD-4-0308-001-4-D)		50			
93	Earthing	1000973325	68.77.02.106.1		4.17.1	Burndy Type GK 1826 earth clamp	Each	50	Rev. A		
94	Earthing	1000973324	74.86.05.215.1		4.17.1	25mm Heavy Gauge PVC Pipe	Each	25	Rev. A		
95	Earthing	1000048059	68.78.90.422.1		4.17.1	70/25 sq.mm branch connector	Metre	50	Rev. A		
96	Earthing	1000049087	70.32.65.025.1		4.17.1	25mm Saddle	Each	50	Rev. A		
97	Earthing	1000047626	68.14.07.382.1		4.17.1	1Cx25sq.mm Y/G Earth cable	Each	150	Rev. A		
98	Earthing	1000047994	68.77.02.126.9		4.17.1	Earth Boss	Each	50	Rev. A		
99	Earthing	1000063796	81.41.17.018.1		4.17.1	M10 Carbon Steel Nut	Each	50	Rev. A		
107	Earthing	1000062587	78.39.10.104.1		4.17.1	12mm Round MS Bar	Metre	50	Rev. A		
108	Junction Box	- -	- -		4.16.6	Electrical Junction Box consists of 8 nos of 240 sq.mm terminal blocks, 8 nos of 50 sq.mm terminal blocks & 1x70 sq,mm + 2x25 sq.mm earth terminal blocks suitable for Hazardous area	Each	1	Rev. A		PAIP00405/RQ/402
109	Junction Box	1000396451	- -		4.16.6	Electrical Junction Box consists of 8 nos of 6 sq.mm terminal blocks, 8 nos of 2.5 sq.mm terminal blocks & 1x25 sq,mm + 3x2.5 sq.mm earth terminal blocks suitable for Hazardous area	Each	10	Rev. A		
110	Lighting Pole	1000048607	- -		4.19.9	Flood Lighting Pole as Drg. STD-4-0203-001, 10M, Height Stepped Steel pole	Each	8	Rev. A		
111	Lighting Pole		- -		4.19.5	Lighting Pole Type-5 as Drg. STD-4-0207-002	Each	2	Rev. A		
112	Lighting	1090000515	- -		4.19.9	Flood Light Crossarm for 2-Way flood light bracket as Drg. STD-4-0205-001	Each	8	Rev. A		
113	Lighting	1000326313	69.61..22.250.9		4.19.5	250W Floodlight fitting complete with control gear and p.f improvement capacitor with H.P Sodium vapour lamp	Each	16	Rev. A		
114	Lighting	1090003156	- -		4.19.5	2x36W Flourescent Light fittings, EEXe IP-55, normal type, Pole mounted	Each	2	Rev. A		
115	Socket Outlet	1000069601	- -		4.11.7	240V 16A 2Pole+PE socket outlet suitable for Hazardous area	Each	1	Rev. A		
116	RCU	1000046062	67.92.61.132.1		4.11.3	Remote control unit 50/1A CT Operated 0-50A Ammeter	Each	2	Rev. A		
117	RCU	1000070070	67.92.61.104.1		4.11.3	Remote control unit 5/1A direct Ammeter 0-5A (RCU shall be suitable for 7Cx2.5 sq.mm Incoming cable & 3Cx2.5 sq.mm Outgoing cable) including 2 nos of M20 glands.	Each	2	Rev. A		
						INSTALLATION MATERIALS FOR RCU AS PER DRG STD-4-0109-001-4-D					
118	Access	1000052011	74086.05.345.9		4.20	50mm Heavy Gauge PVC Pipe	Metre	2	Rev. A		
119	Access	1000052014	74.86.05.570.9		4.20	110mm Heavy Gauge PVC Pipe	Metre	2	Rev. A		
120	Access	1000145612	78.47.31.053.1		4.20	100mm x 50mm x 6mm MS Channel	Metre	8	Rev. A		
121	Access	1000542348	- -		4.20	Galvanised Cable Saddle, 20mm DIA	Each	16	Rev. A		
122	Access	1000062976	81.26.25.112.1		4.20	M10 x 100mm Expanding Bolt	Each	8	Rev. A		
123	Access	1000062606	78.43.30.116.1		4.20	6mm MS Plate, **size 300mm x 300mm**	Each	4	Rev. A		

Prepared by............. Checked by.............Approved by ....

Serial Number	Type	SAP #	MESC #	WPAI Spec #	AVME #	Description	UOM	Total Quantity	Rev #	Additional Qty. to be Procured	Remarks
124	Cathodic Protection		- -				Set	10	Rev. A		

Prepared by............. Checked by.............Approved by ....

PAIP00405- Nimr Sludge Pit Up gradation

MTO- Pipeline



PIPELINE BULK MATERIAL TAKE OFF (MTO) - SUMMARY [FINAL]

WORLEYPARSONS - ARABIAN INDUSTRIES JV

Job/ Project No:	PAIP00405	Location/ Area:	NSPS+NRPS
Project Titile:	NIMR SLUDGE PITS SYSTEMS UPGRADE-FEED/DD	PDO Project Code:	DQ [For Main project]
Client Ref:	C.OM.NIM.IN.09.011	Scope of MTO :	ON-PLOT/OFF-PLOT (Under B31.4 Code Break Limit)
MTO Document No:	NIM-3-2134-001-DQ	MTO Rev No/Date:	A / 17-JUL-2011

SL/ NO.	Material Reqn. & Spec'n (MRS) document Number	SAP / MESC Number	Applicable Piping Class	Line-Item Description	Material with Specification and Grade	Schedule/WT / Rating	Size 1	Size 2	Required Qty.	With Contgy. Qty.	Qty. Ordered before / Qty. In Stock	Qty. to be Ordered [Note-2]	Surpluss(+) Less(-)	Scope of Supply
1	1000671556	NON-MESC.	300#	PIPE: SOUR, CS, BW, HFW CS, BARE, SHALL BE IN ACCORDANCE WITH DEP 31.40.20.37.GEN., SOUR FOR A/G APPLICATIONS.	ISO 3183-3 Gr. L290	5.6 mm W.T.	150		3090	3650	-	-		By PDO (from Ex-stock)
2	1000671556	NON MESC	300#	PIPE: SOUR, CS, BW, HFW. CS, BARE, SHALL BE IN ACCORDANCE WITH DEP 31.40.20.37.GEN., SOUR FOR B/G APPLICATIONS.	ISO 3183-3 Gr. L 290	5.6 mm W.T.	150		352	425	-	-		By PDO (from Ex-stock)
3	PAIP00405/RQ/6002 (L/I#001)	NON-MESC.	300#	BARRED TEE: EQUAL, BW, SOUR, CS, BEVELLED ENDS, TO BE IN ACORD. WITH DEP 31.40.21.30.GEN.& REF. SPEC'N FOR MORE DETAILS.	ISO 15590-2 Gr. L290 (EQUIVALENT TO MSS SP75 WPHY 42)	5.6 mm W.T. (at ends)	150		2	2	-	2	-	By PDO
4	***PAIP00405/RQ/6004 (L/I#001)***	***NON-MESC.***	***300#***	***BRANCH FITTING (BROB): BRANCH OUTLET/WELDOLET, BW, CS, AS PER DEP 31.40.21.30.GEN & MSS SP 97 AND REF. SPEC'N FOR MORE DETAILS.***	***ISO 15590-2 Gr. L290 (EQUIVALENT TO MSS SP 75 WPHY 42)***	***W.T.5.6 x S80 (at ends)***	***150***	***50***	***45***	***52***	-	***52***	-	***By PDO***
5	***PAIP00405/RQ/6003 (L/I#001)***	***NON-MESC.***	***300#***	***FLANGE: CL 300#, WNRF, SOUR, FORGED, BARE, SEAL FACE 3.2-6.4 RA, AS PER DEP.31.40.21.34 AND REF. SPEC'N FOR MORE DETAILS.***	***ISO 15590-3 Gr. L290 (EQUIVALENT TO ASTM A694 Gr. F42)***	***300#***	***150***		***56***	***64***	-	***64***	-	***By PDO***
6	***PAIP00405/RQ/6003 (L/I#002)***	***NON-MESC.***	***300#***	***FLANGE: CL 300#, WNRF, SOUR, FORGED, BARE, SEAL FACE 3.2-6.4 RA, AS PER DEP.31.40.21.34 AND REF. SPEC'N FOR MORE DETAILS.***	***ISO 15590-3 Gr. L290 (EQUIVALENT TO ASTM A694 Gr. F42)***	***300#***	***50***		***45***	***52***	-	***52***	-	***By PDO***
7	PAIP00405/RQ/6007 (L/I#001)	NON-MESC.	300#	BALL VALVE FB FLGD.	REF. REQ'N & SPEC'N	300#	150		4	4	-	4	-	By PDO
8	PAIP00405/RQ/6009	NON-MESC.	300#	THERMAL EXPANSION RELIEF VALVE FLGD. (48-RV-0396,0397,0398)	REF. REQ'N & SPEC'N	150# X 300#	25	50	3	3	-	3	-	By PDO
9	PAIP00405/RQ/6008	NON-MESC.	300#	SLIMLINE VALVE: 2" X 2", CL 300#, SBB, MODULAR TYPE, FB, BOTH END FLANGED RF, NACE MR-0175/ISO 15156.	REF. REQ'N & SPEC'N	300#	50	50	6	6	-	6	-	By PDO
10	PAIP00405/RQ/6005	NON-MESC.	300#	PIG SIGNALLERS: NON-INTRUSIVE TYPE, CLAMP ON/ STRAP-ON TYPE CONN, TO BE INSTALLED ON PIG TRAP & PIPELINE. (48-XI-2338,48-XI-2339,48-XI-2340 & 48-XI-2341)	REF. REQ'N & SPEC'N	300#	150		4	4	-	4	-	By PDO



PIPELINE BULK MATERIAL TAKE OFF (MTO) - SUMMARY [FINAL]

WORLEYPARSONS - ARABIAN INDUSTRIES JV

Job/ Project No:	PAIP00405	Location/ Area:	NSPS+NRPS
Project Titile:	NIMR SLUDGE PITS SYSTEMS UPGRADE-FEED/DD	PDO Project Code:	DQ [For Main project]
Client Ref:	C.OM.NIM.IN.09.011	Scope of MTO :	ON-PLOT/OFF-PLOT (Under B31.4 Code Break Limit)
MTO Document No:	NIM-3-2134-001-DQ	MTO Rev No/Date:	A / 17-JUL-2011

SL/ NO.	Material Reqn. & Spec'n (MRS) document Number	SAP / MESC Number	Applicable Piping Class	Line-Item Description	Material with Specification and Grade	Schedule/WT / Rating	Size 1	Size 2	Required Qty.	With Contgy. Qty.	Qty. Ordered before / Qty. in Stock	Qty. to be Ordered [Note-2]	Surpluss(+) Less(-)	Scope of Supply
11	PAIP00405/RQ/6006	NON-MESC.	300#	PIG TRAPS - LAUNCHER (A-48305): CL 300# Ø 8" x 6", WITH END CLOSURE AND PIG LOADING SYSTEM	REF. REQ'N & SPEC'N	-	200	150	1	1	-	1	-	By PDO
12	PAIP00405/RQ/6006	NON-MESC.	300#	PIG TRAPS - RECEIVER (A-48306): CL 300# Ø 8" x 6", WITH END CLOSURE AND PIG LOADING SYSTEM.	REF. REQ'N & SPEC'N	-	200	150	1	1	-	1	-	By PDO
13	PAIP00405/RQ/6010	NON-MESC.	300#	HDPE-LINER	REF. REQ'N & SPEC'N	BY-VENDOR	150		3615	4280	-	4280	-	By Cont'r
14	1000201043	8546034401	300#	INSULATING GASKET	GRE G10	300#	150		2	2	-	2	-	By Cont'r
15	1000200929	8546033951	300#	INSULATING GASKET	GRE G10	S80S/300#	50		12	12	-	12	-	By Cont'r
16	1000063473 (NOTE-4)	8138662731	31440	STUD BOLT WITH NUTS (8 No's/JT)	ASTM A193-B7M/A194-2HM	300#	0.625	100	96	144	-	144	-	By Cont'r
17	1000063494 (NOTE-4)	8138663351	31440	STUD BOLT WITH NUTS (12 No's/JT)	ASTM A193-B7M/A194-2HM	300#	0.75	140	24	36	-	36	-	By Cont'r
18	1000063496 (NOTE-4)	8138663371	31440	STUD BOLT WITH NUTS (12 No's/JT)	ASTM A193-B7M/A194-2HM	300#	0.75	150	120	180	-	180	-	By Cont'r
19	1000063497 (NOTE-4)	8138663381	31440	STUD BOLT WITH NUTS (12 No's/JT)	ASTM A193-B7M/A194-2HM	300#	0.75	160	24	36	-	36	-	By Cont'r
20	***1000063500 (NOTE-4)***	***8138663411***	***31440***	***STUD BOLT WITH NUTS (12 No's/JT)***	***ASTM A193-B7M/A194-2HM***	***300#***	***0.75***	***180***	***264***	***396***	-	***396***	-	***By Cont'r***

Prepared by: ***Checked by :*** ***Approved by :***

Date: ***Date:*** ***Date:***

Revision details: ***The Revised Line-items including " Quantity to be Ordered" are indicated in ITALIC BOLD BLUE FONTS with YELLOW Highlight (S/N # 4,5,6 & 20) as part of Rev.-A.***

NOTES:

1. Pipe Quantity's are in meters and for all other item's Quantity's are in numbers.

2. ~~The Line-items and quantities indicated in this MTO are preliminary based on PEFS package prior to AFC issue and this MTO is issued for the purpose of enquiry/procurement by PDO or by Construcion contractor. However, the final required line-items and quantities for the project will be issued along with AFC-Piping GAD package at a later stage.~~

3. Stopaq wrap tape, Pipeline Marker's, Name plates and any other materials which is not indicated in this MTO required for the successful completion of the project shall be estimated and supplied by the Construction contractor.

4. Length of Stud bolts to be confirmed upon the receipt of Retainer Ring dimensions for all the PE/ROTO-Lined pipe spools/joints prior to the placement of order.

APPROVED FOR CONSTRUCTION



PIPELINE BULK MATERIAL TAKE OFF (MTO) - SUMMARY [FINAL]

WORLEYPARSONS - ARABIAN INDUSTRIES JV

Job/ Project No:	PAIP00405	Location/ Area:	NSPS+NRPS
Project Titile:	NIMR SLUDGE PITS SYSTEMS UPGRADE-FEED/DD	PDO Project Code:	DQ [For Main project]
Client Ref:	C.OM.NIM.IN.09.011	Scope of MTO :	ON-PLOT/OFF-PLOT (Under B31.3 Code Break Limit)
MTO Document No:	NIM-3-2135-001-DQ	MTO Rev No/Date:	A / 17-JUL-2011

SL/ NO.	Material Reqn. & Spec'n (MRS) document Number	SAP / MESC Number	Applicable Piping Class	Line-Item Description	Material with Specification and Grade	Schedule/WT / Rating	Size 1	Size 2	Required Qty.	With Contgy. Qty.	Qty. Ordered before / Qty. in Stock	Qty. to be Ordered [Note-2]	Surpluss(+) Less(-)	Scope of Supply
1	1000051896	7436330181	33421	PIPE	ASTM A312-TP316L	S 40S	15		43.0	54.0	-	54.0	-	By Cont'r
2	1000051711	7430030711	31440	PIPE	ASTM A106-B	S80	50		80.5	96.0	-	96.0	-	By Cont'r
3	1000051902	7436330571	33421	PIPE	ASTM A312-TP316L	S 10S	50		4.5	6.0	-	6.0	-	By Cont'r
4	1000051716	7430031491	31440	PIPE	ASTM A106-B	S40	100		41.5	54	-	54	-	By Cont'r
5	1000051722	7430032111	31440	PIPE	ASTM A106-B	S40	150		32.0	42.0	-	42.0	-	By Cont'r
6	1000052962	7630426081	31440	ELBOW 90DEG BW	ASTM A234-WPB	S80	50		45	54	-	54	-	By Cont'r
7	1000052968	7630426451	31440	ELBOW 90DEG BW	ASTM A234-WPB	S40	100		10	12	-	12	-	By Cont'r
8	1000052973	7630426651	31440	ELBOW 90DEG BW	ASTM A234-WPB	S40	150		2	2	-	2	-	By Cont'r
9	1000053750	7630816081	31440	EQUAL TEE BW	ASTM A234-WPB	S80	50		13	16	-	16	-	By Cont'r
10	1000069003	7630881571	31440	REDUCING TEE BW	ASTM A234-WPB	S40 x S80	100	50	17	20	-	20	-	By Cont'r
11	1000074733	7630881891	31440	REDUCING TEE BW	ASTM A234-WPB	S40 × S40	150	100	2	2	-	2	-	By Cont'r
12	PAIP00405/RQ/6004	NON-MESC.	3000#	CAP THREADED (FNPT)	ASTM A182 F316, MSS SP 75	3000#	15		45	72	-	72	-	By Cont'r
13	1000071043	7630672661	11440	REDUCER ECC.BW	ASTM A234-WPB	S40 × S80	100	50	1	1	-	1	-	By Cont'r
14	1000055288	7633705791	33421	REDUCER CONC.BW	ASTM A403-WP316L	S10S × S40S	25	15	45	52	-	52	-	By Cont'r
15	1000055295	7633706341	33421	REDUCER CONC.BW	ASTM A403-WP316L	S 10S× S 10S	50	25	50	58	-	58	-	By Cont'r
16	1000057461	7679010641	31440	BRANCH OUTLET BW	ASTM A105	S40 × S80	150	50	8	10	-	10	-	By Cont'r
17	1000057154	7665804021	33421	WELD NECK FLANGE RF	ASTM A182-F316	S 40S	15		90	104	-	104	-	By Cont'r
18	1000057141	7665794061	33421	WELD NECK FLANGE RF	ASTM A182-F316	S 10S	25		5	6	-	6	-	By Cont'r
19	1000056463	7662783601	11440	WELD NECK FLANGE RF	ASTM A105	S80	50		16	19	-	19	-	By Cont'r
20	1000056500	7662786101	31440	WELD NECK FLANGE RF	ASTM A105	S80	50		124	149	-	149	-	By Cont'r
21	1000057143	7665794101	33421	WELD NECK FLANGE RF	ASTM A182-F316	S 10S	50		50	58	-	58	-	By Cont'r
22	1000056452	7662783141	11440	WELD NECK FLANGE RF	ASTM A105	S40	100		6	7	-	7	-	By Cont'r
23	1000056486	7662785641	31440	WELD NECK FLANGE RF	ASTM A105	S40	100		30	36	-	36	-	By Cont'r



PIPELINE BULK MATERIAL TAKE OFF (MTO) - SUMMARY [FINAL]

WORLEYPARSONS - ARABIAN INDUSTRIES JV

Job/ Project No:	PAIP00405	Location/ Area:	NSPS+NRPS
Project Titile:	NIMR SLUDGE PITS SYSTEMS UPGRADE-FEED/DD	PDO Project Code:	DQ [For Main project]
Client Ref:	C.OM.NIM.IN.09.011	Scope of MTO :	ON-PLOT/OFF-PLOT (Under B31.3 Code Break Limit)
MTO Document No:	NIM-3-2135-001-DQ	MTO Rev No/Date:	A / 17-JUL-2011

SL/ NO.	Material Reqn. & Spec'n (MRS) document Number	SAP / MESC Number	Applicable Piping Class	Line-Item Description	Material with Specification and Grade	Schedule/WT / Rating	Size 1	Size 2	Required Qty.	With Contgy. Qty.	Qty. Ordered before / Qty. in Stock	Qty. to be Ordered [Note-2]	Surpluss(+) Less(-)	Scope of Supply
24	1000056487	7662785661	31440	WELD NECK FLANGE RF	ASTM A105	S40	150		19	23	-	23	-	By Cont'r
25	1000056181	7662110701	11440	BLIND FLANGE	ASTM A105	150#	50		1	1	-	1	-	By Cont'r
26	1000056198	7662111201	31440	BLIND FLANGE	ASTM A105	300#	50		12	14	-	14	-	By Cont'r
27	1000056200	7662111241	31440	BLIND FLANGE	ASTM A105	300#	100		2	2	-	2	-	By Cont'r
28	1000059283	7688370501	31440	SPECTACLE BLIND	ASTM A516-60/65/70	300#	50		3	4	-	4	-	By Cont'r
29	1000059285	7688370541	31440	SPECTACLE BLIND	ASTM A516-60/65/70	300#	100		2	2	-	2	-	By Cont'r
30	***1000064408***	***8541364041***	***33421***	***GASKET SPIRAL WOUND***	***AISI 316, graphite filled CS centring-/SS inner ring***	***300#***	***15***		***92***	***184***	-	***184***	-	***By Cont'r***
31	1000064410	8541364081	33421	GASKET SPIRAL WOUND	AISI 316, graphite filled CS centring-/SS inner ring	300#	25		5	10	-	10	-	By Cont'r
32	1000064370	8541363141	11440	GASKET SPIRAL WOUND	AISI 316, graphite filled CS centring-/SS inner ring	150#	50		4	8	-	8	-	By Cont'r
33	1000064412	8541364141	31440	GASKET SPIRAL WOUND	AISI 316, graphite filled CS centring-/SS inner ring	300#	50		1	2	-	2	-	By Cont'r
34	1000064372	8541363201	11440	GASKET SPIRAL WOUND	AISI 316, graphite filled CS centring-/SS inner ring	150#	100		2	4	-	4	-	By Cont'r
35	1000206450	8546030661	150#	INSULATING GASKET	GRE G10	S80-150#	50		11	11	-	11	-	By Cont'r
36	***1000200927***	***8546033911***	***300#***	***INSULATING GASKET***	***GRE G10***	***S10S/300#***	***50***		***47***	***47***	-	***47***	-	***By Cont'r***
37	1000200952	8546033961	300#	INSULATING GASKET	GRE G10	S80-300#	50		12	12	-	12	-	By Cont'r
38	1000206503	8546030941	150#	INSULATING GASKET	GRE G10	S40-150#	100		1	1	-	1	-	By Cont'r
39	1000200951	8546033941	300#	INSULATING GASKET	GRE G10	S40/300#	100		4	4	-	4	-	By Cont'r
40	-	7703450081	13842	BALL VALVE FLOAT RB FLGD	Body: ASTM A182-F55/A890-6A Trim: Super Duplex, PTFE	150#	50		2	2	-	2	-	By Cont'r
41	-	7703453581	33842	BALL VALVE FLOAT RB FLGD	Body: ASTM A182-F55/A890-6A Trim: Super Duplex, PTFE	300#	50		24	24	-	24	-	By Cont'r
42	-	7703660621	33842	BALL VALVE TRUNN RB FLGD	Body: ASTM A182-F55/A890-6A Trim: Super Duplex, filled PTFE	300#	100		4	4	-	4	-	By Cont'r
43	-	***7733430531***	***33842***	***GLOBE VALVE FLGD***	***Body: ASTM A182-F55/A890-6A Trim: Super Duplex***	***300#***	***15***		***46***	***51***	-	***51***	-	***By Cont'r***
44	-	7733430581	33842	GLOBE VALVE FLGD	Body: ASTM A182-F55/A890-6A Trim: Super Duplex	300#	50		3	3	-	3	-	By Cont'r
45	-	7713420081	13842	CHECK VALVE FLGD	Body: ASTM A182-F55/A890-6A Trim: Super Duplex	150#	50		2	2	-	2	-	By Cont'r



PIPELINE BULK MATERIAL TAKE OFF (MTO) - SUMMARY [FINAL]

WORLEYPARSONS - ARABIAN INDUSTRIES JV

Job/ Project No:	PAIP00405	Location/ Area:	NSPS+NRPS
Project Titile:	NIMR SLUDGE PITS SYSTEMS UPGRADE-FEED/DD	PDO Project Code:	DQ [For Main project]
Client Ref:	C.OM.NIM.IN.09.011	Scope of MTO :	ON-PLOT/OFF-PLOT (Under B31.3 Code Break Limit)
MTO Document No:	NIM-3-2135-001-DQ	MTO Rev No/Date:	A / 17-JUL-2011

SL/ NO.	Material Reqn. & Spec'n (MRS) document Number	SAP / MESC Number	Applicable Piping Class	Line-Item Description	Material with Specification and Grade	Schedule/WT / Rating	Size 1	Size 2	Required Qty.	With Contgy. Qty.	Qty. Ordered before / Qty. in Stock	Qty. to be Ordered [Note-2]	Surpluss(+) Less(-)	Scope of Supply
46	-	7713420581	33842	CHECK VALVE FLGD	Body: ASTM A182-F55/A890-6A Trim: Super Duplex	300#	50		4	4	-	4	-	By Cont'r
47	PAIP00405/RQ/6009	NON-MESC.	300#	THERMAL EXPANSION RELIEF VALVE, FLGD. (48-RV-0547, 48-RV-0548)	REF. REQ'N & SPEC'N	300#	25	50	2	2	-	2	-	By Cont'r
48	***1000063457 (NOTE-3)***	***8138661551***	***33421***	***STUD BOLT WITH NUTS (4 No's/JT)***	***ASTM A193-B7M/A194-2HM***	***300#***	***0.5***	***70***	***360***	***540***	***-***	***540***	***-***	***By Cont'r***
49	1000063469 (NOTE-3)	8138662691	33421	STUD BOLT WITH NUTS (4 No's/JT)	ASTM A193-B7M/A 194-2HM	300#	0.625	80	12	18	-	18	-	By Cont'r
50	1000063471 (NOTE-3)	8138662711	31440	STUD BOLT WITH NUTS (8 No's/JT)	ASTM A193-B7M/A194-2HM	300#	0.625	90	24	36	-	36	-	By Cont'r
51	***1000063473 (NOTE-3)***	***8138662731***	***31440***	***STUD BOLT WITH NUTS (8 No's/JT)***	***ASTM A193-B7M/A194-2HM***	***300#***	***0.625***	***100***	***1008***	***1512***	***-***	***1512***	***-***	***By Cont'r***
52	1000063474 (NOTE-3)	8138662741	31440	STUD BOLT WITH NUTS (8 No's/JT)	ASTM A193-B7M/A194-2HM	300#	0.625	110	312	468	-	468	-	By Cont'r
53	1000063475 (NOTE-3)	8138662761	31440	STUD BOLT WITH NUTS (8 No's/JT)	ASTM A193-B7M/A194-2HM	300#	0.625	120	24	36	-	36	-	By Cont'r
54	1000063493 (NOTE-3)	8138663341	31440	STUD BOLT WITH NUTS (8 No's/JT)	ASTM A193-B7M/A194-2HM	300#	0.75	130	8	12	-	12	-	By Cont'r
55	1000063494 (NOTE-3)	8138663351	31440	STUD BOLT WITH NUTS (8 No's/JT)	ASTM A193-B7M/A194-2HM	300#	0.75	140	144	216	-	216	-	By Cont'r
56	1000063496 (NOTE-3)	8138663371	31440	STUD BOLT WITH NUTS (8 No's/JT)	ASTM A193-B7M/A194-2HM	300#	0.75	150	92	138	-	138	-	By Cont'r
57	1000063497 (NOTE-3)	8138663381	31440	STUD BOLT WITH NUTS (12 No's/JT)	ASTM A193-B7M/A194-2HM	300#	0.75	160	44	66	-	66	-	By Cont'r
58	PAIP00405/RQ/6013	7353160449	150#	ELAFLEX COUPLING	CS	150#	100		1	1	-	1	-	By Cont'r

Prepared by: *Checked by :* *Approved by :*

Date: *Date:* *Date:*

Revision details: *The Revised Line-items including "Quantity to be Ordered" are indicated in ITALIC BOLD BLUE FONTS with YELLOW Highlight (S/N # 1,12,14,15,17,21,30,36,43,48 & 51) as part of Rev.-A.*

NOTES:

1. Pipe Quantity's are in meters and for all other item's Quantity's are in numbers.

2. ~~The Line-items and quantities indicated in this MTO are preliminary based on PEFS package prior to AFC issue and this MTO is issued for the purpose of enquiry/procurement by PDO or by Construcion contractor. However, the final required line-items and quantities for the project will be issued along with AFC Piping GAD package at a later stage.~~

3. Length of Stud bolts to be confirmed upon the receipt of Retainer Ring dimensions for all the PE/ROTO-Lined pipe spools/joints prior to the placement of order.

APPROVED FOR CONSTRUCTION

PAIP00405- Nimr Sludge Pit Up gradation

MTO- C&A

MTO FOR NIMR SLUDGE PITS SYSTEM UPGR

Sl NO	ITEM	SAP NO	MESC NO	AVME NO	CLASS	DESCRIPTION	MAT SPECIFICATION	SCH	SIZE 1	SIZE 2	UNIT	QTY	MINIMUM CERT. REQ.
1	302	1000049076	70.13.04.025.1			HEAVY GAUGE CONDUIT	GALV. STEEL		25mm Dia		Mtrs	15.00	
2	L	1000047736	XX.XX.XX.XXX.X			CABLE XLPEI-MS-SWA-PVCS, BLACK			2 x2.5 mm2		Mtrs	250.00	
3	O	1000405299	XX.XX.XX.XXX.X			CABLE XLPEI-MS-SWA-PVCS, BLACK			2 x 2 x 1.13 mm		Mtrs	1000.00	
4	P	1000405297	XX.XX.XX.XXX.X	37.020		CBL ELEC ARM FIRE 24V 10PAIR 0.5MM2			10 x 2 x 0.8 mm		Mtrs	1300.00	BS5308, PART 1, TYPE2
5	R	-	XX.XX.XX.XXX.X			CABLE SHRINK ON SLEEVE (BLUE)	POLYOLEFIN		19 ~ 6 mm		-	NOTE-1	
6	X	1000048276	68.80.58.068.1			LOCK NUT	BRASS		M20		Pcs	30.00	
7	Y	1000048277	68.80.58.072.9	37.110		NUT LCK HEX BRASS MTR 25MM	BRASS		M25		Pcs	12.00	BS3643
8	AA	1000048319	68.80.58.730.1			CABLE GLAND 501/453-0	BRASS		M20		Pcs	53.00	
9	AB	1000048321	68.80.58.734.1	37.110		GLND CBL W/FLMPROF PVC SWA BS6121/25	BRASS		M25		Pcs	12.00	BS6121, TYPE E1 WF
10	AD	1000048327	68.80.58.802.9			GLND CBL ADPT 1/2"NPT 20MM	BRASS		½" NPTxM20		Pcs	8.00	
11	AP	1000211202	74.13.10.069.9			PIPE MET API 5L-B 40 DN50	CARBON STEEL		2"		Mtrs	17.00	
12	AQ	10000211233	74.13.12.103.9			PIPE MET API 5L-B 40 DN80	CARBON STEEL		3"		Pcs	3.00	
13	BP	1000106870	76.30.15.052.1			CAP PIPE BW WPB 80 DN50	CARBON STEEL		2"		Pcs	7.00	
14	BQ	1000053436	76.30.72.235.1			REC BW WPB 40 DN80X50	CARBON STEEL		3" x 2"		Pcs	3.00	
15	CC	1000055943	76.39.27.152.9	37.320		CONN TUBE CPT MAL 316 316 1/2X1/2"	AISI 316		½" NPT x ½" OD		Pcs	3.00	
16	CF	1000056003	76.39.67.040.1	37.320		PLUG TUB CPT 316 1/4IN	AISI 316		¼" NPT		Pcs	22.00	
17	CJ	1000062573	78.39.02.121.1			FLAT BAR (6Mtrs LONG)	MILD STEEL		50 x 6 mm		Pcs	2.00	
18	CL	1000062605	78.43.30.108.1			STEEL PLATE (2000x1000x3)	MILD STEEL		3mm THICK		Pcs	1.00	
19	CM	1000062606	78.43.30.116.1			SHT PLT SLD MET 2000X1000 6MM	MILD STEEL		6 mm THK		Pcs	1.00	
20	CN	1000062608	78.43.30.124.1			SHT PLT SLD MET 2000X1000 10MM	MILD STEEL		10 mm THK		Pcs	1.00	
21	CQ	1000062629	78.47.01.352.1			ANGL MTL EQ STL 6M L50X50X6MM	MILD STEEL		50 x 50 x 6 mm		Pcs	3.00	
22	CR	1000051996	74.48.50.073.9	37.310		TUBE MET INSTR 1/2IN 18SWG 0.048IN	AISI 316		½" OD		Mtrs	5.00	
23	CY	1000062961	81.01.77.192.1			BLT HEX CL.8.8 COARSE 60MM M10	CARBON STEEL		M10 x 60 mm		Pcs	5.00	
24	DA	1000062977	81.26.25.133.1			BLT FND CL.4.6 MC 110MM M12	CARBON STEEL		M12 x 110 mm		Pcs	20.00	
25	DH	1000063819	81.41.77.018.1			NUT MTR CL.8 HEX ISO 724 M10	CARBON STEEL		M10		Pcs	5.00	
26	DU	1000062984	81.26.86.022.9			U-BOLT FOR 1/2" PIPE C/W NUTS & SPRING WASHER	AISI 316		M8		Pcs	16.00	
27	DV	1000062987	81.26.86.040.9			U-BOLT DN50	AISI 316		M10		Pcs	41.00	
28	EA	1000048204	68.80.50.942.9			CABLE TIES 12/BLACK			4x140 mm		-	NOTE-1	
29	EB	1000048103	68.79.02.004.9			CARRIER STRIP BLACK 7 DIGITS					-	NOTE-1	
30	EC	1000048115	68.79.02.004.9			CABLE MARKER TYPE KS			80		-	NOTE-1	
31	ED	1000062537	68.79.02.018.1			PLAIN STRIP			250x19x1.6 mm		-	NOTE-1	
32	EE	1000048112	68.79.02.018.1			CORE MARKER MODLE ZS-5			D=1.5-2.0 mm		-	NOTE-1	
33	EK	1000047959	68.76.54.004.9			CABLE CHANNEL 2M LONG	GI		100 mm WIDE		Mtrs	100.00	BS2989, GROUP2, CLASS-E
34	EO	1000047964	68.76.54.052.9			CABLE CHANNEL BEND 90 DEG.	GI		100 mm WIDE		Pcs	50.00	BS2989, GROUP2, CLASS-E
35	ES	1000047982	68.76.81.024.9			CABLE TILE			1000x244x6 mm		Pcs	250.00	
36						NAME PLATE (AS PER NAME PLATE DETAILS)			(TYPE A & B)		Pcs	NOTE-2	
37						PRESSURE TRANSMITTER	NOTE-3		-		Pcs	1.00	
38						PRESSURE GAUGE	NOTE-3		-		Pcs	9.00	
39						DIFFERENTIAL PRESSURE TRANSMITTER	NOTE-3		-		Pcs	3.00	
40						RADR LEVEL TRANSMITTER	NOTE-3		-		Pcs	4.00	
41						TEMPERATURE TRANSMITTER	NOTE-3		-		Pcs	1.00	
42						ULTRASONC FLOW METER (STRAP-ON TYPE)	NOTE-3		-		Pcs	1.00	
43						PNEUMATIC On-Off VALVE, RB, 6", 300#	NOTE-3		-		Pcs	1.00	
44		1000039291	60.04.69.302.9			PUSH BUTTON, EFS-110			-		Pcs	5.00	
45						HEAT DETECTOR	NOTE-3		-		Pcs	2.00	
46						LEVEL GAUGE	NOTE-3		-		Pcs	1.00	
47						HOOTER (AUDIBLE ALARM)	NOTE-3		-		Pcs	1.00	
48		1000047918	68.76.40.014.9			JUNCTION BOX EEx II T6			20 TERMINALS		Pcs	3.00	
50						RTU WITH RADIO MODULE	NOTE-4						
51						GATEWAY	NOTE-4						
	NOTE -1 : QUANTITIES TO BE DETERMINED AND MATERIAL TO BE SUPPLIED BY CONSTRUCTION CONTRACTOR.												
	NOTE -2 : REFER DRAWING No. NIM -5-4739-DQ-4												
	NOTE -3 : AS PER SPECIFICATION PREPARED UNDER THIS PROJECT.												
	NOTE -4 : FREE ISSUE BY PDO												

PAIP00405- Nimr Sludge Pit Up gradation

MTO- Mechanical

Job Number : PAIP00405

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Area : NIMR

Contigency Status: Final

Bulk Summary Doc. No. : NIM-3-2145-001-DQ

MTO Rev. No. : A

Date: 30-MAY-11

Sr.No.	SAP/Req. Numbe	MESC Numbe	Class	Item Description	Material	Schedule/W Rating	Size 1	Size 2	Required Quantity	Quantity with Contingen	Stock Quanti	Total Requisition Quant	Material to be Procure	Surplus Material
1	1000051514	7413080181	18011	Pipe	API 5L-B (galvanised)	S80	15	0	0.5	6	0	6	0	0
2	1000051518	7413080281	18011	Pipe	API 5L-B (galvanised)	S80	25	0	0.5	6	0	6	0	0
3	1000051700	7430030201	31440	Pipe	ASTM A106-B	S160	15	0	4	6	0	6	0	0
4	1000051711	7430030711	31440	Pipe	ASTM A106-B	S80	50	0	168.7	198	0	228	0	30
5	1000051715	7430031091	11440	Pipe	ASTM A106-B	S80	80	0	7	12	0	6	6	0
6	1000051718	7430031491	11440	Pipe	ASTM A106-B	S40	100	0	92.5	108	0	138	0	30
7	1000051722	7430032111	31440X	Pipe	ASTM A106-B	S 40	150	0	298.5	348	0	282	66	0
8	1000051781	7430050281	11412	Pipe	ASTM A106-B	S80	20	0	1.5	6	0	0	6	0
9	1000072413	7430053731	11412	Pipe	ASTM A106-B	S20	350	0	16	18	0	18	0	0
10	1000051896	7436330181	33411	Pipe	ASTM A312-TP316L	S40S	15	0	0	0	0	6	0	6
11	1000051897	7436330261	33411	Pipe	ASTM A312-TP316L	S40S	20	0	0.5	6	0	24	0	18
12	1000051898	7436330331	33421	Pipe	ASTM A312-TP316L	S10S	25	0	0	0	0	6	0	6
13	1000051902	7436330571	13411	Pipe	ASTM A312-TP316L	S10S	50	0	1	6	0	12	0	6
14	1000052326	7606280161	18011	Coupling Thrd	ASTM A234-WPB (galvanised)	S80	25	0	1	1	0	1	0	0
15	1000052340	7606390081	18011	Elbow 90 Deg Thrd	ASTM A234-WPB (galvanised)	S80	15	0	0	0	0	2	0	2
16	1000052400	7606660081	18011	Plug Npt	ASTM A234-WPB (galvanised)	S80	15	0	1	1	0	1	0	0
17	1000052433	7606850341	18011	Tee Reducing Thrd	ASTM A234-WPB (galvanised)	S80 × S80	25	15	1	1	0	1	0	0
18	1000052451	7606910161	18011	Union Thrd	ASTM A234-WPB (galvanised)	S80	25	0	1	1	0	1	0	0
19	1000124172	7629461921	11412	Reducer Conc.Bw	ASTM A234-WPB	S40 × S80	50	20	1	1	0	0	1	0
20	1000052727	7630346081	31440X	Elbow 45 Deg Bw	ASTM A234-WPB	S 80	50	0	2	2	0	2	0	0
21	1000052737	7630346651	31440X	Elbow 45 Deg Bw	ASTM A234-WPB	S 40	150	0	5	6	0	0	6	0
22	1000052870	7630405741	11412	Elbow 90 Deg Bw	ASTM A234-WPB	S80	20	0	2	2	0	0	2	0
23	1000052951	7630425721	31440X	Elbow 90 Deg Bw	ASTM A234-WPB	S 160	15	0	37	43	0	11	32	0
24	1000052962	7630426081	31440	Elbow 90 Deg Bw	ASTM A234-WPB	S80	50	0	35	40	0	49	0	9
25	1000052966	7630426281	11440	Elbow 90 Deg Bw	ASTM A234-WPB	S80	80	0	4	5	0	5	0	0
26	1000052968	7630426451	11440	Elbow 90 Deg Bw	ASTM A234-WPB	S40	100	0	12	14	0	17	0	3
27	1000052973	7630426651	31440X	Elbow 90 Deg Bw	ASTM A234-WPB	S 40	150	0	33	38	0	35	3	0
28	1000053081	7630662371	11440	Reducer Conc.Bw	ASTM A234-WPB	S80 × S80	80	50	1	1	0	1	0	0
29	1000053100	7630663051	31440X	Reducer Conc.Bw	ASTM A234-WPB	S 40 x S 40	150	100	1	1	0	1	0	0
30	1000070912	7630671411	31440	Reducer Ecc.Bw	ASTM A234-WPB	S160 × S160	20	15	1	1	0	1	0	0
31	1000070920	7630671931	31440	Reducer Ecc.Bw	ASTM A234-WPB	S80 × S160	50	20	1	1	0	1	0	0
32	1000053750	7630816081	31440	Equal Tee Bw	ASTM A234-WPB	S80	50	0	10	12	0	14	0	2
33	1000053754	7630816281	11440	Equal Tee Bw	ASTM A234-WPB	S80	80	0	2	2	0	2	0	0
34	1000053756	7630816451	11440	Equal Tee Bw	ASTM A234-WPB	S40	100	0	1	1	0	1	0	0
35	1000053760	7630816651	31440X	Equal Tee Bw	ASTM A234-WPB	S 40	150	0	4	5	0	5	0	0
36	1000069003	7630881571	11440	Tee Reducing Bw	ASTM A234-WPB	S40 × S80	100	50	2	2	0	10	0	8
37	1000074733	7630881891	31440X	Tee Reducing Bw	ASTM A234-WPB	S 40 x S 40	150	100	1	1	0	1	0	0

38	1000055078	7633412861	33421	Elbow 90 Deg Bw	ASTM A403-WP316L	S40S		15	0	0	0	0	5	0	5
39	1000055079	7633412961	33411	Elbow 90 Deg Bw	ASTM A403-WP316L	S40S		20	0	0	0	0	5	0	5
40	1000055085	7633413341	13411	Elbow 90 Deg Bw	ASTM A403-WP316L	S10S		50	0	0	0	0	10	0	10
41	1000055295	7633706341	33421	Reducer Conc.Bw	ASTM A403-WP316L	S10S× S10S		50	25	0	0	0	2	0	2
42	1000055560	7633856181	33411	Tee Reducing Bw	ASTM A403-WP316L	S40S× S40S		20	15	1	1	0	2	0	1
43	1000056181	7662110701	11440	Blind Flange	ASTM A105		150#	50	0	4	5	0	4	1	0
44	1000056182	7662110721	11440	Blind Flange	ASTM A105		150#	80	0	1	1	0	1	0	0
45	1000056183	7662110741	11440	Blind Flange	ASTM A105		150#	100	0	1	1	0	0	1	0
46	1000056198	7662111201	31440X	Blind Flange	ASTM A105		300#	50	0	12	14	0	14	0	0
47	1000056200	7662111241	31440X	Blind Flange	ASTM A105		300#	100	0	0	0	0	1	0	1
48	1000056201	7662111261	31440X	Blind Flange	ASTM A105		300#	150	0	1	1	0	0	1	0
49	1000056309	7662203201	31440X	Lap Joint Flange	ASTM A105		300#	50	0	1	1	0	1	0	0
50	1000056452	7662783141	11440	Weld Neck Rf Flange	ASTM A105	S40	150#	100	0	7	8	0	8	0	0
51	1000056463	7662783601	11440	Weld Neck Rf Flange	ASTM A105	S80	150#	50	0	17	20	0	25	0	5
52	1000056464	7662783621	11440	Weld Neck Rf Flange	ASTM A105	S80	150#	80	0	5	6	0	6	0	0
53	1000056486	7662785641	31440X	Weld Neck Rf Flange	ASTM A105	S 40	300#	100	0	1	1	0	18	0	17
54	1000056487	7662785661	31440X	Weld Neck Rf Flange	ASTM A105	S 40	300#	150	0	153	176	0	132	44	0
55	1000056500	7662786101	31440X	Weld Neck Rf Flange	ASTM A105	S 80	300#	50	0	94	108	0	158	0	50
56	1000056510	7662786521	31440	Weld Neck Rf Flange	ASTM A105	S160	300#	15	0	28	32	0	7	25	0
57	1000056994	7665104121	33411	Blind Flange	ASTM A182-F316		300#	15	0	1	1	0	2	0	1
58	1000056995	7665104141	33411	Blind Flange	ASTM A182-F316		300#	20	0	1	1	0	1	0	0
59	1000057118	7665792101	13411	Weld Neck Rf Flange	ASTM A182-F316	S10S	150#	50	0	0	0	0	4	0	4
60	1000057141	7665794061	33421	Weld Neck Rf Flange	ASTM A182-F316	S10S	300#	25	0	0	0	0	2	0	2
61	1000057143	7665794101	33421	Weld Neck Rf Flange	ASTM A182-F316	S10S	300#	50	0	4	5	0	2	3	0
62	1000057154	7665804021	33411	Weld Neck Rf Flange	ASTM A182-F316	S40S	300#	15	0	1	1	0	5	0	4
63	1000057155	7665804041	33411	Weld Neck Rf Flange	ASTM A182-F316	S40S	300#	20	0	2	2	0	10	0	8
64	1000057461	7679010641	31440X	Branch Outlet Bw	ASTM A105	S 40 x S 80		150	50	29	33	0	30	3	0
65	1000058020	7680371211	31440X	Branch Fitting Flgd	ASTM A105	S 160	300#	600	15	18	20	0	7	13	0
66	1000173022	7683385621	31440X	Thermowell	ASTM B564 UNS N04400		150# / 250C	50	255	1	1	0	1	0	0
67	1000072195	7688370101	11440	Spectacle Blind	ASTM A516-60/65/70		150#	50	0	2	2	0	2	0	0
68	1000070269	7688370141	11440	Spectacle Blind	ASTM A516-60/65/70		150#	100	0	2	2	0	2	0	0
69	1000071500	7688370201	11440	Spectacle Blind	ASTM A516-60/65/70		150#	250	0	2	2	0	2	0	0
70	1000059283	7688370501	31440X	Spectacle Blind	ASTM A516-60/65/70		300#	50	0	7	8	0	6	2	0
71	1000059285	7688370541	31440X	Spectacle Blind	ASTM A516-60/65/70		300#	100	0	0	0	0	1	0	1
72	1000059286	7688370561	31440X	Spectacle Blind	ASTM A516-60/65/70		300#	150	0	8	9	0	10	0	1
73		7700250081	11440	Ball Valve RB Flgd.	Body: ASTM A105/A216-WCB/WCC Trim: AISI 316, PTFE		150#	50	0	3	3	0	4	0	1
74		7700250101	11440	Ball Valve RB Flgd.	Body: ASTM A105/A216-WCB/WCC Trim: AISI 316, PTFE		150#	80	0	1	1	0	1	0	0
75		7700250121	11440	Ball Valve RB Flgd.	Body: ASTM A105/A216-WCB/WCC Trim: AISI 316, PTFE		150#	100	0	2	2	0	2	0	0
76	RQ/3008	NON MESC	31440X	Ball Valve 14313 RB F	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	100	0	0	0	0	2	0	2
77		7703260081	13411	Ball Valve RB Flgd.	Body: ASTM A182-F316/A351-CF8M Trim: AISI 316, PTFE		150#	50	0	0	0	0	1	0	1
78	RQ/3008	NON MESC	11440X	Ball Valve RB Flgd.	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		150#	50	0	2	2	0	2	0	0
79	RQ/3008	NON MESC	31440X	Ball Valve 14313 RB F	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	50	0	25	28	0	34	0	6

80	RQ/3008	NON MESC	31440X	Ball Valve 14313 FB Fl	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	150	0	9	10	0	12	0	2
81	RQ/3008	NON MESC	11440X	Ball Valve 14313 FB Fl	Body: ASTM A105/A216 WCB/WCC WITH ALLOY 625 CLAD Trim: SDSS, PTFE		150#	250	0	1	1	0	1	0	0
82	RQ/3011	NON MESC	31440X	Globe Valve Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	50	0	0	0	0	1	0	1
83		7707031531	18011	Ball Valve Float RB Th	ASTM B148-UNS C95400,TRIM:ALUMINIUM BRONZE,PTFE		800#	15	0	1	1	0	1	0	0
84	RQ/3009	NON MESC	31440X	Check Valve Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	50	0	5	6	0	6	0	0
85	RQ/3009	NON MESC	31440X	Check Valve Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	150	0	3	3	0	4	0	1
86	1090000348	7710050081	11440	Check Valve Flgd	Body: ASTM A105/A216-WCB/WCC Trim: AISI 316, Stellite 6		150#	50	0	1	1	0	1	0	0
87		7713193541	33411	Check Valve Flgd	Body: ASTM A182-F316/A351-CF8M Trim: AISI 316, Stellite 6		300#	20	0	1	1	0	2	0	1
88	RQ/3005	NON MESC	31440X	Modular Constr. SBBV	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	50	50	11	11	0	10	1	0
89		7723033531	33411	Gate Valve Flgd	Body: ASTM A182-F316/A351-CF8M Trim: AISI 316, Stellite 6		300#	15	0	1	1	0	2	0	1
90		7723033541	33411	Gate Valve Flgd	Body: ASTM A182-F316/A351-CF8M Trim: AISI 316, Stellite 6		300#	20	0	1	1	0	2	0	1
91		7730053531	31440X	Globe Valve Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	15	0	11	12	0	8	4	0
92	1000063033	8138611551	33411	Stud Bolt with Nuts	ASTM A193-B7/A194-2H			0.5	70	8	10	0	24	0	14
93	1000063047	8138612691	33411	Stud Bolt with Nuts	ASTM A193-B7/A194-2H			0.63	80	16	20	0	60	0	40
94	1000063457	8138661551	31440	Stud Bolt with Nuts	ASTM A193-B7M/A194-2HM			0.5	70	160	208	0	84	124	0
95	1000063471	8138662711	11440	Stud Bolt with Nuts	ASTM A193-B7M/A194-2HM			0.63	90	40	52	0	96	0	44
96	1000063473	8138662731	11440	Stud Bolt with Nuts	ASTM A193-B7M/A194-2HM			0.63	100	656	852	0	1332	0	480
97	1000063474	8138662741	31440X	Stud Bolt with Nuts	ASTM A193-B7M/A194-2HM			0.63	110	152	197	0	96	101	0
98	1000063477	8138662781	31440X	Stud Bolt with Nuts	ASTM A193-B7M/A194-2HM			0.63	130	64	83	0	36	47	0
99	1000063494	8138663351	31440X	Stud Bolt with Nuts	ASTM A193-B7M/A194-2HM			0.75	140	0	0	0	96	0	96
100	1000063496	8138663371	31440X	Stud Bolt with Nuts	ASTM A193-B7M/A194-2HM			0.75	150	1032	1341	0	252	1089	0
101		8138663401	31440X	Stud Bolt with Nuts	ASTM A193-B7M/A194-2HM			0.75	170	108	140	0	18	122	0
102	1000064370	8541363141	13411	Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		150#	50	0	14	28	0	40	0	12
103	1000064371	8541363181	11440	Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		150#	80	0	4	8	0	8	0	0
104	1000064372	8541363201	11440	Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		150#	100	0	8	16	0	14	2	0
105	1000064375	8541363281	11440	Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		150#	250	0	2	4	0	4	0	0
106	1000064390	8541363701	31440X	Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	100	0	0	0	0	2	0	2
107	1000064391	8541363741	31440X	Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	150	0	6	12	0	20	0	8
108	1000064408	8541364041	31440X	Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	15	0	44	88	0	36	52	0
109	1000064409	8541364061	33411	Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	20	0	4	8	0	20	0	12
110	1000064410	8541364081	33421	Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	25	0	0	0	0	4	0	4
111	1000064412	8541364141	33421	Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	50	0	38	76	0	72	4	0
112	1000206450	8546030661	11440	Insulating Gasket	GRE G10 - Mylar	S80	150#	50	0	2	2	0	2	0	0
113	1000206482	8546030821	11440	Insulating Gasket	GRE G10 - Mylar	S80	150#	80	0	2	2	0	0	2	0
114	RQ/3002	NON MESC	31440X	Basket Strainer	Body: ASTM A105/A216-WCB/WCC Internal glass flake coating Trim: 25% Cr Duplex		300#	150	0	2	2	0	2	0	0
115	RQ/3007	NON MESC	31440X	Chemical Injection Qui	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	50	0	2	2	0	2	0	0
116	RQ/3013	NON MESC	13411	Elaflex Coupling	STAINLESS STEEL		150#	50	0	0	0	0	1	0	1

Civil Drawings

PAIP00405- Nimr Sludge Pit Up gradation.

PAIP00405

NIMR- SLUDGE PITS SYSTEMS UPGRADE

PROJECT - PAIP00405

CIVIL DRAWINGS - HOLD LIST:-

S. No.	ITEM	Piping GA Ref. Dwg. No.	REASON
	In Launcher Area		
1	2 Platforms coming on Existing Sludge pit.	NIM-3-2140-001-DQ & NIM-3-2142-001-DQ.	Pending pump support finalisation.
2	Monorail & its foundation.	NIM-3-2140-001-DQ & NIM-3-2142-001-DQ.	Pending Pump capacity.
3	Valve pit.	NIM-3-2141-001-DQ.	Size & location pending.
4	A48309 - Oxygen Scavenger Skid Foundation.	NIM-3-2141-001-DQ.	Pending vendor data finalisation.
5	Sunshade & IPS/UDB Foundation.	NIM-1-3710-001-DQ.	Pending vendor data finalisation.
6	PS 26 & 27 - Civil Dwg no. NIM-2-1842-032-DQ. PS 28 - Dwg no. NIM-2-1842-044-DQ. PS 33 - Dwg no. NIM-2-1842-052-DQ. PS 34 & 35 - Dwg no. NIM-2-1842-053-DQ.	NIM-3-2140-001-DQ & NIM-3-2142-001-DQ.	Elevation pending from vendor.



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Discipline Code: Civil				**Current Revision Detail**			**Earlier Revision Detail**		
Item#	**Document No**	**Size**	**Description:**	**Rev#**	**Date:**	**Status:**	**Rev#**	**Date:**	**Status:**
1	NIM-1-2635-200-DQ	A4	Drawing Control Index	A	27-FEB-11	AFC	0	26-FEB-11	IFC
2	NIM-2-0992-001-DQ	A1	FOUNDATION LOCATION PLAN	A	27-FEB-11	AFC	0	26-FEB-11	IFC
3	NIM-2-1841-001-DQ	A3	GENERAL NOTES - CONCRETE	A	27-FEB-11	AFC	0	26-FEB-11	IFC
4	NIM-2-1841-002-DQ	A3	GENERAL NOTES - STEEL	A	27-FEB-11	AFC	0	26-FEB-11	IFC
5	NIM-2-1841-003-DQ	A3	TYPICAL STAIR AND HANDRAILING	A	27-FEB-11	AFC	0	26-FEB-11	IFC
6	NIM-2-1841-004-DQ	A3	TYPICAL GRATING AND TREAD DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
7	NIM-2-1841-005-DQ	A3	STANDARD BAR SHAPE CODES	A	27-FEB-11	AFC	0	26-FEB-11	IFC
8	NIM-2-1842-001-DQ	A3	PIPE SUPPORTS (LAUNCHER) INDEX SHEET	A	27-FEB-11	AFC	0	26-FEB-11	IFC
9	NIM-2-1842-002-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
10	NIM-2-1842-003-DQ	A3	PIPE SUPPORTS-FOUNDATION DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
11	NIM-2-1842-004-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
12	NIM-2-1842-005-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
13	NIM-2-1842-006-DQ	A3	PIPE SUPPORTS-FOUNDATION DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
14	NIM-2-1842-007-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
15	NIM-2-1842-008-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
16	NIM-2-1842-009-DQ	A3	PIPE SUPPORTS-FOUNDATION DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
17	NIM-2-1842-010-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
18	NIM-2-1842-011-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
19	NIM-2-1842-012-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
20	NIM-2-1842-013-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
21	NIM-2-1842-014-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
22	NIM-2-1842-015-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
23	NIM-2-1842-016-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
24	NIM-2-1842-017-DQ	A3	PIPE SUPPORTS -'U' BOLT	A	27-FEB-11	AFC	0	26-FEB-11	IFC
25	NIM-2-1842-018-DQ	A3	PIPE SUPPORTS - PIPE GUIDE DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
26	NIM-2-1842-020-DQ	A3	PIPE SUPPORTS-SLEEPER DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
27	NIM-2-1842-021-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
28	NIM-2-1842-022-DQ	A3	PIPE SUPPORTS-SLEEPER DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
29	NIM-2-1842-023-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC



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Item#	Document No	Size	Description:	Rev#	Date:	Status:	Rev#	Date:	Status:
30	NIM-2-1842-024-DQ	A3	PIPE SUPPORTS-SLEEPER DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
31	NIM-2-1842-025-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
32	NIM-2-1842-026-DQ	A3	PIPE SUPPORTS-SLEEPER DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
33	NIM-2-1842-027-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
34	NIM-2-1842-028-DQ	A3	PIPE SUPPORTS (LAUNCHER) INDEX SHEET	A	27-FEB-11	AFC	0	26-FEB-11	IFC
35	NIM-2-1842-029-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
36	NIM-2-1842-030-DQ	A3	PIPE SUPPORTS-FOUNDATION DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
37	NIM-2-1842-031-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
38	NIM-2-1842-032-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
39	NIM-2-1842-033-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
40	NIM-2-1842-034-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
41	NIM-2-1842-035-DQ	A3	PIPE SUPPORTS - FOUNDATION DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
42	NIM-2-1842-036-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
43	NIM-2-1842-037-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
44	NIM-2-1842-038-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
45	NIM-2-1842-039-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
46	NIM-2-1842-040-DQ	A3	PIPE SUPPORTS-FOUNDATION DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
47	NIM-2-1842-041-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
48	NIM-2-1842-042-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
49	NIM-2-1842-043-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
50	NIM-2-1842-044-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
51	NIM-2-1842-045-DQ	A3	PIPE SUPPORTS-FOUNDATION DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
52	NIM-2-1842-046-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
53	NIM-2-1842-047-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
54	NIM-2-1842-048-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
55	NIM-2-1842-049-DQ	A3	PIPE SUPPORTS-FOUNDATION DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
56	NIM-2-1842-050-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
57	NIM-2-1842-051-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
58	NIM-2-1842-052-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC



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Item#	**Document No**	**Size**	**Description:**	**Rev#**	**Date:**	**Status:**	**Rev#**	**Date:**	**Status:**
59	NIM-2-1842-053-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
60	NIM-2-1842-054-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
61	NIM-2-1842-055-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
62	NIM-2-1842-056-DQ	A3	PIPE SUPPORTS-FOUNDATION DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
63	NIM-2-1842-057-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
64	NIM-2-1842-058-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
65	NIM-2-1842-059-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
66	NIM-2-1842-060-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
67	NIM-2-1842-061-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
68	NIM-2-1842-062-DQ	A3	PIPE SUPPORTS-FOUNDATION DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
69	NIM-2-1842-063-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
70	NIM-2-1842-064-DQ	A3	PIPE SUPPORTS - 'U' BOLT DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
71	NIM-2-1842-065-DQ	A3	PIPE SUPPORTS PIPE CLAMP WITH SHOW AND LINE ST(DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
72	NIM-2-1842-066-DQ	A3	PIPE SUPPORTS PIPE GUIDE DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
73	NIM-2-1842-067-DQ	A3	PIPE SUPPORTS LINE STOP DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
74	NIM-2-1842-068-DQ	A3	PIPE SUPPORTS PIPE SHOE DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
75	NIM-2-1842-069-DQ	A3	PIPE SUPPORTS PIPE SHOE GUIDE DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
76	NIM-2-1842-070-DQ	A3	PIPE SUPPORTS PIPE CLIP (HEAVY) DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
77	NIM-2-1843-001-DQ	A3	CIVIL DETAILS SPILL PIT & HARD STRAND	A	27-FEB-11	AFC	0	26-FEB-11	IFC
78	NIM-2-1844-001-DQ	A1	STRUCTURAL STEEL DETAILS PLATFORM MK'D P1	A	27-FEB-11	AFC	0	26-FEB-11	IFC
79	NIM-2-1844-002-DQ	A3	CIVIL DETAILS PLATFORM FOUNDATION MK'D PF1	A	27-FEB-11	AFC	0	26-FEB-11	IFC
80	NIM-2-1844-003-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
81	NIM-2-1844-004-DQ	A3	CIVIL DETAILS STAIR FOUNDATION MK'D SF1	A	27-FEB-11	AFC	0	26-FEB-11	IFC
82	NIM-2-1844-005-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
83	NIM-2-1844-006-DQ	A3	STRUCTURAL STEEL DETAILS CROSS OVER-CO1	A	27-FEB-11	AFC	0	26-FEB-11	IFC
84	NIM-2-1844-007-DQ	A1	STRUCTURAL STEEL DETAILS CROSS OVER MK'D-CO2	A	27-FEB-11	AFC	0	26-FEB-11	IFC
85	NIM-2-1844-008-DQ	A3	CIVIL DETAILS CROSS OVER FOUNDATION MK'D CF2	A	27-FEB-11	AFC	0	26-FEB-11	IFC
86	NIM-2-1844-009-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC



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Item#	Document No	Size	Description:	Rev#	Date:	Status:	Rev#	Date:	Status:
87	NIM-2-1844-010-DQ	A1	STRUCTURAL STEEL DETAILS PLATFORM MK'D P1&P2	A	27-FEB-11	AFC	0	26-FEB-11	IFC
88	NIM-2-1844-011-DQ	A3	CIVIL DETAILS FOUNDATION DETAILS MK'D PF1	A	27-FEB-11	AFC	0	26-FEB-11	IFC
89	NIM-2-1844-012-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
90	NIM-2-1844-013-DQ	A3	CIVIL DETAILS STAIR FOUNDATION MK'D SF1	A	27-FEB-11	AFC	0	26-FEB-11	IFC
91	NIM-2-1844-014-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
92	NIM-2-1845-001-DQ	A1	CONCRETE STRUCTURE G.A. & REINFT. DET'S. FOR ROA	A	27-FEB-11	AFC	0	26-FEB-11	IFC
			CULVERT No.5						
93	NIM-2-1845-002-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
94	NIM-2-1845-003-DQ	A1	CONCRETE STRUCTURE G.A. & REINFT. DET'S. FOR ROA	A	27-FEB-11	AFC	0	26-FEB-11	IFC
			CULVERT No.2A						
95	NIM-2-1845-004-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
96	NIM-2-1845-005-DQ	A1	LAYOUT G.A. OF CULVERT No.1	A	27-FEB-11	AFC	0	26-FEB-11	IFC
97	NIM-2-1845-006-DQ	A1	CONCRETE STRUCTURE G.A. & REINFT. DET'S. FOR ROA	A	27-FEB-11	AFC	0	26-FEB-11	IFC
			CULVERT No.1						
98	NIM-2-1845-007-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
99	NIM-2-1845-008-DQ	A1	LAYOUT G.A. OF CULVERT No.2	A	27-FEB-11	AFC	0	26-FEB-11	IFC
100	NIM-2-1845-009-DQ	A1	CONCRETE STRUCTURE G.A. & REINFT. DET'S. FOR ROA	A	27-FEB-11	AFC	0	26-FEB-11	IFC
			CULVERT No.2						
101	NIM-2-1845-010-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
102	NIM-2-1845-011-DQ	A1	LAYOUT G.A. OF CULVERT No.3 & 4	A	27-FEB-11	AFC	0	26-FEB-11	IFC
103	NIM-2-1845-012-DQ	A1	CONCRETE STRUCTURE G.A. & REINFT. DET'S. FOR ROA	A	27-FEB-11	AFC	0	26-FEB-11	IFC
			CULVERT No.3 & 4.						
104	NIM-2-1845-013-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
105	NIM-2-1846-001-DQ	A3	CIVIL DETAILS BENCH MARK DETAILS MK'D BM 1	A	27-FEB-11	AFC	0	26-FEB-11	IFC
106	NIM-2-1846-002-DQ	A1	CIVIL DETAILS WINDSOCK DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
107	NIM-2-5166-001-DQ	A1	FOUNDATION LAYOUT	A	27-FEB-11	AFC	0	26-FEB-11	IFC
108	NIM-2-5167-001-DQ	A1	FOUNDATION LAYOUT	A	27-FEB-11	AFC	0	26-FEB-11	IFC
109	NIM-2-5210-001-DQ	A1	FOUNDATION LAYOUT	A	27-FEB-11	AFC	0	26-FEB-11	IFC
110	NIM-2-5604-001-DQ	A1	FOUNDATION LAYOUT	A	27-FEB-11	AFC	0	26-FEB-11	IFC
111	NIM-2-5604-005-DQ	A1	FOUNDATION LAYOUT	A	27-FEB-11	AFC	0	26-FEB-11	IFC



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Client : Petroleum Development Oman LLC (PDO)

Index Doc. No.:

Job No. : PAIP00405

Phase: DD

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline Code: Civil				**Current Revision Detail**			**Earlier Revision Detail**		
Item#	**Document No**	**Size**	**Description:**	**Rev#**	**Date:**	**Status:**	**Rev#**	**Date:**	**Status:**
112	NIM-2-5771-001-DQ	A3	GENERAL NOTES - CONCRETE	A	27-FEB-11	AFC	0	26-FEB-11	IFC
113	NIM-2-5771-002-DQ	A3	GENERAL NOTES - STEEL	A	27-FEB-11	AFC	0	26-FEB-11	IFC
114	NIM-2-5771-003-DQ	A3	TYPICAL STAIR AND HANDRAILING	A	27-FEB-11	AFC	0	26-FEB-11	IFC
115	NIM-2-5771-004-DQ	A3	TYPICAL GRATING AND TREAD DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
116	NIM-2-5771-005-DQ	A3	STANDARD BAR SHAPE CODES	A	27-FEB-11	AFC	0	26-FEB-11	IFC
117	NIM-2-5771-006-DQ	A3	TYPICAL LADDER DETAILS (FRONT ENTRY)	A	27-FEB-11	AFC	0	26-FEB-11	IFC
118	NIM-2-5772-001-DQ	A3	PIPE SUPPORTS (RECEIVER) INDEX SHEET	A	27-FEB-11	AFC	0	26-FEB-11	IFC
119	NIM-2-5772-002-DQ	A3	PIPE SUPPORTS (RECEIVER) INDEX SHEET	A	27-FEB-11	AFC	0	26-FEB-11	IFC
120	NIM-2-5772-003-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
121	NIM-2-5772-004-DQ	A3	PIPE SUPPORTS-FOUNDATION DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
122	NIM-2-5772-005-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
123	NIM-2-5772-006-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
124	NIM-2-5772-007-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
125	NIM-2-5772-008-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
126	NIM-2-5772-009-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
127	NIM-2-5772-010-DQ	A3	PIPE SUPPORTS-FOUNDATION DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
128	NIM-2-5772-011-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
129	NIM-2-5772-012-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
130	NIM-2-5772-013-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
131	NIM-2-5772-014-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
132	NIM-2-5772-015-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
133	NIM-2-5772-016-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
134	NIM-2-5772-017-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
135	NIM-2-5772-018-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
136	NIM-2-5772-019-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
137	NIM-2-5772-020-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
138	NIM-2-5772-021-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
139	NIM-2-5772-022-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
140	NIM-2-5772-023-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC



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Phase: DD

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Item#	**Document No**	**Size**	**Description:**	**Rev#**	**Date:**	**Status:**	**Rev#**	**Date:**	**Status:**
141	NIM-2-5772-024-DQ	A3	PIPE SUPPORTS-SLEEPER DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
142	NIM-2-5772-025-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
143	NIM-2-5772-026-DQ	A3	PIPE SUPPORTS-SLEEPER DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
144	NIM-2-5772-027-DQ	A4	BBS	A	27-FEB-11	AFDD	0	26-FEB-11	IFC
145	NIM-2-5772-028-DQ	A3	PIPE SUPPORTS-SLEEPER DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
146	NIM-2-5772-029-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
147	NIM-2-5772-030-DQ	A3	PIPE SUPPORTS-SLEEPER DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
148	NIM-2-5772-031-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
149	NIM-2-5772-032-DQ	A3	PIPE SUPPORTS (RECEIVER) INDEX SHEET	A	27-FEB-11	AFC	0	26-FEB-11	IFC
150	NIM-2-5772-033-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
151	NIM-2-5772-034-DQ	A3	PIPE SUPPORTS-FOUNDATION DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
152	NIM-2-5772-035-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
153	NIM-2-5772-036-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
154	NIM-2-5772-037-DQ	A3	PIPE SUPPORTS-FOUNDATION DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
155	NIM-2-5772-038-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
156	NIM-2-5772-039-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
157	NIM-2-5772-040-DQ	A3	PIPE SUPPORTS-FOUNDATION DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
158	NIM-2-5772-041-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
159	NIM-2-5772-042-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
160	NIM-2-5772-043-DQ	A3	PIPE SUPPORTS-FOUNDATION DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
161	NIM-2-5772-044-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
162	NIM-2-5772-045-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
163	NIM-2-5772-046-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
164	NIM-2-5772-047-DQ	A3	PIPE SUPPORTS-TRUNNION	A	27-FEB-11	AFC	0	26-FEB-11	IFC
165	NIM-2-5772-048-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
166	NIM-2-5772-049-DQ	A3	PIPE SUPPORTS-FOUNDATION DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
167	NIM-2-5772-050-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
168	NIM-2-5772-051-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
169	NIM-2-5772-052-DQ	A3	PIPE SUPPORTS	A	27-FEB-11	AFC	0	26-FEB-11	IFC



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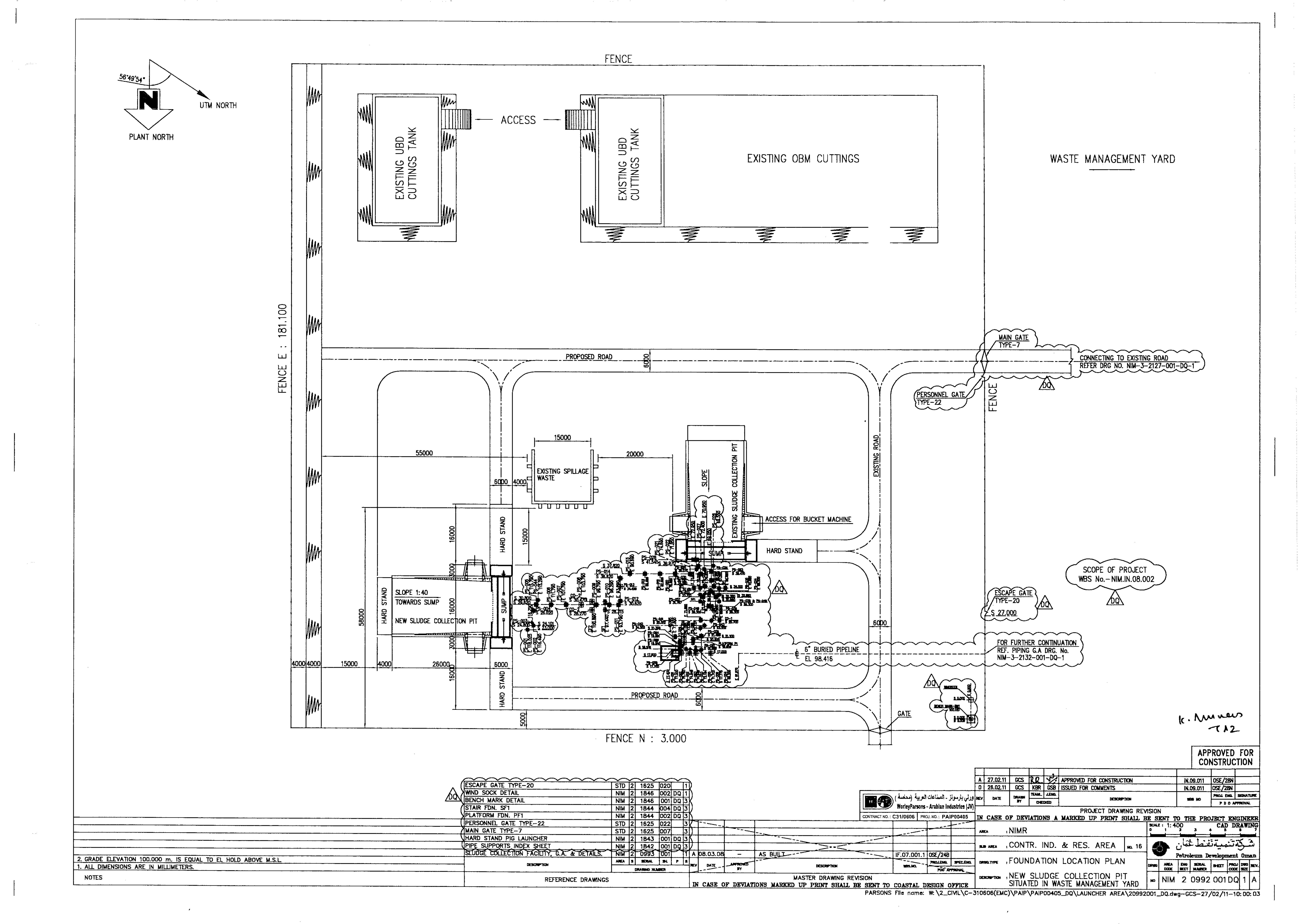
Index Doc. No.:

Job No. : PAIP00405

Phase: DD

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline Code: Civil				**Current Revision Detail**			**Earlier Revision Detail**		
Item#	**Document No**	**Size**	**Description:**	**Rev#**	**Date:**	**Status:**	**Rev#**	**Date:**	**Status:**
170	NIM-2-5772-053-DQ	A3	PIPE SUPPORTS-SLEEPER DETAILS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
171	NIM-2-5772-054-DQ	A3	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
172	NIM-2-5772-055-DQ	A3	PIPE SUPPORTS 'U' BOLT(PIPE NOT GRIPPED)	A	27-FEB-11	AFC	0	26-FEB-11	IFC
173	NIM-2-5773-001-DQ	A3	CIVIL DETAILS SPILL PIT & HARD STRAND	A	27-FEB-11	AFC	0	26-FEB-11	IFC
174	NIM-2-5774-001-DQ	A1	CIVIL DETAILS DRAIN PIT	A	27-FEB-11	AFC	0	26-FEB-11	IFC
175	NIM-2-5774-002-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
176	NIM-2-5774-003-DQ	A1	CIVIL DETAILS FLANGE PIT	A	27-FEB-11	AFC	0	26-FEB-11	IFC
177	NIM-2-5774-004-DQ	A3	CIVIL DETAILS HARD STAND	A	27-FEB-11	AFC	0	26-FEB-11	IFC
178	NIM-2-5774-005-DQ	A1	CIVIL DETAILS FLANGE PIT	A	27-FEB-11	AFC	0	26-FEB-11	IFC
179	NIM-2-5774-006-DQ	A3	CIVIL DETAILS COLLECTION PIT	A	27-FEB-11	AFC	0	26-FEB-11	IFC
180	NIM-2-5775-001-DQ	A1	STRUCTURAL STEEL DETAILS PLATFORM MK'D P1	A	27-FEB-11	AFC	0	26-FEB-11	IFC
181	NIM-2-5775-002-DQ	A3	CIVIL DETAILS PLATFORM FOUNDATION MK'D PF1	A	27-FEB-11	AFC	0	26-FEB-11	IFC
182	NIM-2-5775-003-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
183	NIM-2-5775-004-DQ	A3	CIVIL DETAILS STAIR FOUNDATION MK'D SF1	A	27-FEB-11	AFC	0	26-FEB-11	IFC
184	NIM-2-5775-005-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
185	NIM-2-5775-006-DQ	A1	STRUCTURAL STEEL DETAILS PLATFORM MK'D P1	A	27-FEB-11	AFC	0	26-FEB-11	IFC
186	NIM-2-5775-007-DQ	A3	CIVIL DETAILS FOUNDATION DETAILS MK'D PF1	A	27-FEB-11	AFC	0	26-FEB-11	IFC
187	NIM-2-5775-008-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC
188	NIM-2-5775-009-DQ	A1	STRUCTURAL STEEL DETAILS PLATFORM MK'D P2	A	27-FEB-11	AFC	0	26-FEB-11	IFC
189	NIM-2-5775-010-DQ	A3	CIVIL DETAILS STAIR FOUNDATION MK'D SF1	A	27-FEB-11	AFC	0	26-FEB-11	IFC
190	NIM-2-5775-011-DQ	A4	BBS	A	27-FEB-11	AFC	0	26-FEB-11	IFC


FENCE
56°49'54"
N
UTM NORTH
PLANT NORTH
ACCESS
EXISTING UBD CUTTINGS TANK
EXISTING UBD CUTTINGS TANK
EXISTING OBM CUTTINGS
WASTE MANAGEMENT YARD
FENCE E : 181.100
PROPOSED ROAD
6000
MAIN GATE TYPE-7
CONNECTING TO EXISTING ROAD
REFER DRG NO. NIM-3-2127-001-DQ-1
DQ
PERSONNEL GATE TYPE-22
FENCE
15000
55000
20000
EXISTING SPILLAGE WASTE
6000
4000
EXISTING ROAD
SLOPE
EXISTING SLUDGE COLLECTION PIT
ACCESS FOR BUCKET MACHINE
SUMP
HARD STAND
16000
15000
HARD STAND
SCOPE OF PROJECT
WBS No.-NIM.IN.08.002
SLOPE 1:40
TOWARDS SUMP
NEW SLUDGE COLLECTION PIT
HARD STAND
58000
SUMP
3000
ESCAPE GATE TYPE-20
S 27.000
6000
FOR FURTHER CONTINUATION
REF. PIPING G.A DRG. No.
NIM-3-2132-001-DQ-1
6" BURIED PIPELINE
EL 98.416
4000
4000
15000
4000
26000
6000
16000
HARD STAND
PROPOSED ROAD
6000
5000
GATE
FENCE N : 3.000
k. Munes
TA2
APPROVED FOR CONSTRUCTION
ESCAPE GATE TYPE-20 | STD | 2 | 1625 | 020 | | 1
WIND SOCK DETAIL | NIM | 2 | 1846 | 002 | DQ | 1
BENCH MARK DETAIL | NIM | 2 | 1846 | 001 | DQ | 3
STAIR FDN. SF1 | NIM | 2 | 1844 | 004 | DQ | 3
PLATFORM FDN. PF1 | NIM | 2 | 1844 | 002 | DQ | 3
PERSONNEL GATE TYPE-22 | STD | 2 | 1625 | 022 | | 3
MAIN GATE TYPE-7 | STD | 2 | 1625 | 007 | | 3
HARD STAND PIG LAUNCHER | NIM | 2 | 1843 | 001 | DQ | 3
PIPE SUPPORTS INDEX SHEET | NIM | 2 | 1842 | 001 | DQ | 3
SLUDGE COLLECTION FACILITY, G.A. & DETAILS. | NIM | 2 | 0993 | 001 | | 1
DESCRIPTION | AREA | S | SERIAL | SH. | P | R
DRAWING NUMBER
REFERENCE DRAWINGS
2. GRADE ELEVATION 100.000 m. IS EQUAL TO EL HOLD ABOVE M.S.L.
1. ALL DIMENSIONS ARE IN MILLIMETERS.
NOTES
A | 08.03.08 | - | AS BUILT | IF.07.001.1 | OSE/24B
REV | DATE | APPROVED BY | DESCRIPTION | WBS NO. | PROJ.ENG. | SPEC.ENG.
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405
A | 27.02.11 | GCS | | | APPROVED FOR CONSTRUCTION | IN.09.011 | OSE/28N
0 | 26.02.11 | GCS | KBR | GSB | ISSUED FOR COMMENTS | IN.09.011 | OSE/28N
REV | DATE | DRAWN BY | TEAM L. | J.ENG. | CHECKED | DESCRIPTION | WBS NO | PROJ. ENG. | SIGNATURE | P D O APPROVAL
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
AREA : NIMR
SCALE : 1: 400
CAD DRAWING
SUB AREA : CONTR. IND. & RES. AREA | NO. 16
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG. TYPE : FOUNDATION LOCATION PLAN
DESCRIPTION : NEW SLUDGE COLLECTION PIT SITUATED IN WASTE MANAGEMENT YARD
NO | NIM | 2 | 0992 | 001 | DQ | 1 | A
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\20992001_DQ.dwg-GCS-27/02/11-10:00:03

1.0 GENERAL NOTES

1.1 ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH CONSTRUCTION CONTRACT AND / OR CIVIL AND BUILDING CONSTRUCTION SPECIFICATIONS SP-1279 AND GUIDE TO CONCRETE CONSTRUCTION SP-1282.

1.2 ALL DIMENSIONS ARE IN MILLIMETERS EXCEPT FOR PIPE SIZES WHICH ARE SHOWN IN INCHES.

1.3 ALL ELEVATIONS ARE IN METERS AND RELATED TO DATUM ELEVATION OF 100.000

2.0 EXCAVATION, TRENCHING AND BACKFILL

2.1 BACKFILL FOR FOUNDATIONS, WALLS, TRENCHES AND SITE GRADING SHALL BE PLACED IN EVEN LAYERS (SUCH THAT COMPACTED THICKNESS DOES NOT EXCEED 150mm) AND THE FULL WIDTH OF THE FORMATION. THE FILL SHALL BE GRADED AS SHOWN BELOW.

BS SEIVE SIZE	% PASSING BY WEIGHT
50.00 mm	100%
9.50 mm	60%-100%
5.00 mm	50%-85%
2.00 mm	40%-70%
425 μm	25%-45%
75 μm	8%-15%

ALL FILL MATERIAL INCLUDING SUBGRADE AND VERGES SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY OBTAINED IN THE MODIFIED AASHTO COMPACTION TEST.

2.2 ALL UNDERGROUND CABLES EXCEPT EARTHING CABLES SHALL BE LAID AT A MINIMUM DEPTH OF 600mm.

2.3 INSTRUMENTATION CABLES SHALL NOT BE LAID IN THE SAME TRENCH WITH POWER AND LIGHTING CABLES.

2.4 ALL BURIED CABLES SHALL BE LAID IN SUCH A WAY THAT THE FILLING MATERIAL WITHIN 100mm FROM THE CABLES SHALL BE FREE OF STONES OR OTHER MATERIALS WHICH MAY DAMAGE THE CABLES. SUITABLE FILL, SUCH AS CLEAN SMALL-GRAINED SAND SHALL BE USED FOR THIS PURPOSE. THE CABLES SHALL BE PROTECTED BY SUITABLE SLABS OR TILES WHICH SHALL FORM A CONTINUOUS BUT REMOVABLE COVERING 200mm ABOVE THE HIGHEST CABLE.

2.5 WHERE CROSSING OF INSTRUMENTATION WITH POWER AND LIGHTING CABLES IS UNAVOIDABLE,INSTRUMENTATION CABLE SHALL BE LAID ABOVE AND SHALL BE KEPT AT A MINIMUM DISTANCE OF 750mm FROM POWER AND LIGHTING CABLES.

3.0 FOUNDATION WORKS

3.1 THE FOUNDATIONS FOR BUILDINGS, EQUIPMENT, STEEL STRUCTURES AND PIPE SUPPORTS WHEREVER SPECIFIED ON DRAWINGS SHALL BE LAID ON 2 COATS OF FOSROC'S 'NITOCOTE PE 135' GLASS MAT SPREAD OVER BLINDING CONCRETE. THE SIDES AND TOP OF CONCRETE FOUNDATION IN CONTACT WITH SOIL AND UPTO 250mm ABOVE GRADE SHALL BE APPLIED WITH FOSROC'S 'NITOCOTE PE 135' IN 2 COATS WITH EACH COAT MEASURING 600 MICRON THICKNESS.WHILE THE FIRST COAT IS STILL WET, APPLY 120-150 gsm GLASS MAT ON THE SURFACE AND ROLL OVER TO ENSURE THE MAT IS FULLY EMBEDDED. MASTER SEAL 550 MANUFACTURED BY DEGUSSA OR ANY OTHER PDO APPROVED EQUIVALENT IN PLACE OF 'NITOCOTE PE 135'. APPLICATION SHALL BE AS PER RESPECTIVE MANUFACTURER'S INSTRUCTIONS.

3.2 BEFORE POURING CONCRETE, THE FIELD SHALL MAKE PROVISION FOR THE INSTALLATION OF ALL UNDERGROUND SERVICES AFFECTED BY THE FOUNDATIONS.

3.3 BEFORE CASTING FOUNDATIONS, ANY IMMEDIATE OR ADJACENT AREAS OF DISTURBED OR SOFT SOIL MUST BE REMOVED AND REPLACED WITH MASS CONCRETE OF GRADE 10.

3.4 ALL EXPOSED PORTIONS OF FOUNDATION CONCRETE AND INSIDE SURFACES OF RCC PITS, WHEREVER NOT SPECIFICALLY SPECIFIED, SHALL BE COATED WITH 'FOSROC DEKGUARD S' OR EQUIVALENT.

4.0 CONCRETE

4.1 ALL CONCRETE WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH CODE OF PRACTICE FOR THE STRUCTURAL USE OF CONCRETE:BS 8110 INCLUDING ALL RELATED CODES FOR PLACING, MIXING, CURING AND TESTING.

4.2 A LAYER OF BLINDING CONCRETE 50mm THK SHALL BE PLACED UNDER ALL FOUNDATIONS. BLINDING CONCRETE SHALL HAVE A CHARACTERISTIC STRENGTH OF 10 N/mm^2 AT 28 DAYS.

4.3 ALL CONCRETE WITH THE EXCEPTION OF BLINDING CONCRETE SHALL OF GRADE AS SPECIFIED IN THE RESPECTIVE DETAILED DRAWINGS AND SHALL NOT BE LOWER THAN GRADE 35 CONCRETE WITH 'CORTEC MCI 2005' CORROSION INHIBITOR AT A RATE OF 0.6 lit/m^3 OR EQUIVALENT. MIXING SHALL BE AS PER MANUFACTURER INSTRUCTIONS.

4.4 FOR ALL CONCRETE WORKS, ORDINARY PORTLAND CEMENT TO BS EN 197 SHALL BE USED, UNLESS OTHERWISE SPECIFIED.
MAXIMUM FREE WATER CEMENT RATIO SHALL BE 0.45
MINIMUM CEMENT CONTENT FOR 20mm AGGREGATE SHALL BE 370 kg/m^3.
FOR 40mm AGGREGATE SHALL BE 340 kg/m^3.

4.5 ALL EDGES OF EXPOSED AND BURIED CONCRETE MEMBERS SHALL HAVE CHAMFER OF APPROXIMATELY 25mm.

4.6 HOT-ROLLED DEFORMED HIGH-YIELD BARS GRADE 460 WITH A SPECIFIED CHARACTERISTIC STRENGTH OF 460 N/mm^2 SHALL BE USED AS REINFORCEMENT FOR ALL CONCRETE WORKS. HOT-ROLLED MILD STEEL BARS GRADE 250 WITH A SPECIFIED CHARACTERISTIC STRENGTH OF 250 N/mm^2 SHALL BE USED WHERE SPECIFIED.

4.7 NOMINAL COVER TO ALL REINFORCEMENT (INCLUDING LINKS) UNLESS SPECIFIED OTHERWISE SHALL BE

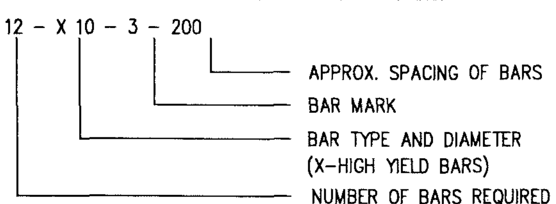
1) FOUNDATIONS, COLUMNS, BEAMS, SLABS AND WALLS IN CONTACT WITH SOIL OR EXPOSED TO WEATHER. – 50 mm
2) COLUMNS, BEAMS AND WALLS NEITHER IN CONTACT WITH SOIL NOR EXPOSED TO WEATHER. – 40 mm
3) BUILDING FLOOR SLABS & ROOF SLABS – 25 mm

4.8 UNLESS NOTED OTHERWISE ON THE DRAWING FOLLOWING MINIMUM LAP LENGTHS SHALL BE USED.

SIZE	LAP LENGTH *
T8	450
T10	550
T12	650
T16	850
T20	1050
T25	1300
T32	1650

* – SPECIFIED TO THE NEAREST 25 mm.

4.9 LEGEND FOR REINFORCEMENT OF HOT-ROLLED MILD STEEL AND HOT ROLLED DEFORMED HIGH YIELD STRESS BARS.



5.0 ANCHOR BOLTS

5.1 ALL ANCHOR BOLTS AND NUTS SHALL CONFORM TO A 307-B OR DIN 267 4.6 OR BS 970 070 M20 UNLESS SPECIFIED OTHERWISE. ALL WASHERS SHALL BE ACCORDING TO BS 4320. ALL THREADING SHALL BE ISO METRIC THREAD CONFORMING TO BS 3643.

5.2 ALL PROJECTIONS OF HOLDING DOWN BOLTS (ANCHOR BOLTS) ARE TAKEN FROM TOP OF ROUGH CONCRETE.

5.3 STYROPOR OR SIMILAR APPROVED MATERIAL FOR FORMING THE (ANCHOR) BOLT POCKETS SHALL BE SECURED AGAINST ANY MOVEMENT DURING CONSTRUCTION AND REMOVED AS SOON AS THE CONCRETE IS SET.

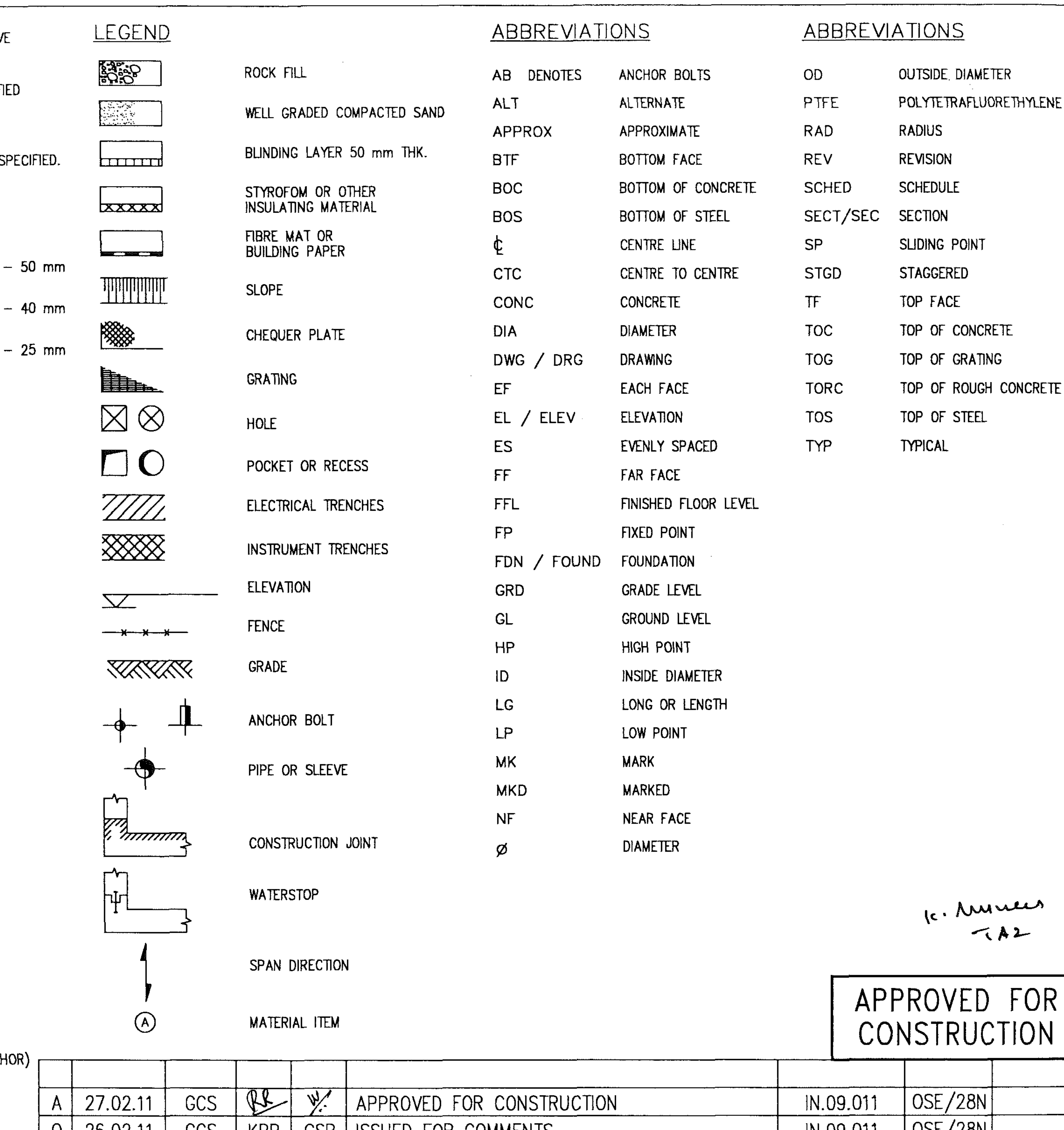
6.0 GROUTING

6.1 ALL GROUTING REQUIRES PRIOR APPROVAL BY ENGINEER BEFORE GROUTING. THE SURFACE SHALL BE CLEANED AND SOAKED WITH WATER.

6.2 GROUT MORTAR SHALL CONSIST OF ONE PART OF ORDINARY PORTLAND CEMENT AND TWO PARTS OF SAND WITH WATER CEMENT RATIO NOT EXCEEDING 0.4.

6.3 GROUT MORTAR SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 40 N/mm^2.

6.4 WHERE REQUIRED AND INDICATED ON THE DRAWINGS, A NON-SHRINK GROUT SHALL BE PREPARED AND APPLIED STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.



REV	DATE	DRAWN BY	TEAML.	J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	
			CHECKED				P D O APPROVAL	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

CAD DRAWING
SCALE : —
0 1 2 3 4 5 6 7

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16

DRWG.TYPE : CONCRETE STRUCTURE

DESCRIPTION : GENERAL NOTES, LEGEND AND ABBREVIATIONS

شركة تنمية نفط عمان
Petroleum Development Oman

وورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	1841	001	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21841001_DQ.dwg-GCS-27/02/11-10:00:04

1.0 GENERAL NOTES.

1.1 ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH CONSTRUCTION CONTRACT AND / OR CONSTRUCTION SPECIFICATION SP-1279.

1.2 ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT FOR PIPE SIZES WHICH ARE SHOWN IN INCHES.

1.3 ALL ELEVATIONS ARE IN METERS AND RELATED TO DATUM ELEVATION OF 100.000

2.0 STRUCTURAL STEEL MATERIAL

2.1 STEEL STRUCTURE SHALL BE FABRICATED IN ACCORDANCE WITH GOOD WORKING PRACTICE, MATERIALS, WORKMANSHIP AND TESTING GENERALLY SHALL COMPLY WITH BS 5950 PART-1,2000.

2.2 STRUCTURAL STEEL SHALL COMPLY WITH THE FOLLOWING MATERIAL REQUIRMENT. GRADE S275 JR COMPLYING WITH BS EN 10025 PART 1 & 3.

2.3 STRUCTURAL STEEL SHALL COMPLY WITH THE REQUIRMENT OF BS 5950, PART-1, IN ADDITION STRUCTURAL STEEL HOT ROLLED SECTIONS SHALL COMPLY WITH THE REQUIRMENTS OF BS 4 PART-1,1993 AND PART-2,1969 AND FOR ANGLES BS EN 10056-1:1999 (METRIC DIMENSIONS). PIPES USED FOR STRUCTURAL PURPOSE SHALL COMPLY WITH ASTM A 106 GRADE B, OR AS SPECIFIED ON THE DRAWINGS.

3.0 BOLTING

3.1 BOLTS AND NUTS SHALL HAVE ISO - METRIC COARSE THREAD.

3.2 MILD STEEL BOLTS, NUTS AND WASHERS SHALL COMPLY WITH THE REQUIREMENT OF BS 5950 PART-1,BS 4190 AND BS 4320.

3.3 WASHERS ARE TO BE PROVIDED UNDER ALL NUTS ON BEVELLED SURFACES SQUARE TAPER WASHERS OF 5 mm MEAN THICKNESS SHALL BE PROVIDED UNDER NUT OR HEAD AS APPROPRIATE.

4.0 WELDING

4.1 WELDING USED IN THE FABRICATION WORK IS TO BE BY THE METALLIC ARC PROCESS USING ELECTRODES COMPLYING WITH THE REQUIREMENTS OF BS 639.THE WHOLE OF THE WORK IS TO BE IN ACCORDANCE WITH THE REQUIRMENTS LAID DOWN IN BS 5950 AND 5135.

4.2 THE ENDS OF ALL STANCHIONS AND POSTS TOGETHER WITH GUSSETS WHERE PRESENT AND ALREADY WELDED ON, SHALL BE MACHINED SO THAT THE WHOLE AREA IS IN DIRECT CONTACT WITH THE BASE, BEARING OR CAP PLATE, SUCH PLATES BEING TRULY AT RIGHT ANGLES TO THE STANCHION AXIS OR AS OTHERWISE SPECIFIED ON THE DRAWING.

4.3 MINIMUM SIZE OF WELD SHALL BE 6 mm UNLESS SPECIFIED.

5.0 FLOORING AND GRATING

5.1 STAIR TREADS SHALL BE OF HOT DIP GALVANIZED GRATING.

5.2 SOLID FLOORING SHALL BE MADE OF TEAR PLATE (DURBAR OR EQUIVALENT).

5.3 CHEQUERED PLATE SHALL NOT BE USED FOR PLATFORMS IN OIL AND GAS PROCESSING PLANTS. HOWEVER CHEQUERED PLATE FLOORING IS PERMITTED TO BE USED AS TRENCH COVERING WITHIN CONTROL BUILDINGS AND ELECTRICAL SUBSTATIONS.

5.4 FOR OPEN FLOORING GALVANISED GRATING SHALL BE USED. THE MAIN BARS OF THE GRATING SHALL BE 25x5mm MINIMUM AT A CENTRE LINE SPACING OF 33 mm. LATERAL RESTRAINT SHALL BE PROVIDED BY 6 mm SQUARE TRANSVERSE BARS AT A SPACING OF 33 mm, WELDED INTO THE UPPER EDGE OF THE MAIN BARS. FIXING MATERIAL SHALL BE HOT DIP GALVANIZED TO BS EN ISO 1461:1999

6.0 ERECTION

6.1 ERECTION ON CONCRETE FOUNDATION SHALL NOT COMMENCE WITHIN 7 DAYS OF POURING THE CONCRETE FOUNDATIONS AND ONLY IF THE CONCRETE HAS ACQUIRED SUFFICIENT STRENGTH.

6.2 THE CONTRACTOR SHALL PROPERLY ALIGN EACH PART OF THE STRUCTURE BEFORE MAKING THE FIELD CONNECTIONS.

6.3 THE CONTRACTOR SHALL ENTIRELY BE RESPONSIBLE FOR THE STABILITY OF THE STEELWORK DURING ERECTION AND HE SHALL ARRANGE FOR ALL TEMPORARY GUYING, BRACING AND SUPPORTS TOGETHER WITH ANY ADDITIONAL TACK BOLTS NECESSARY FOR THE STABILITY OF THE STEELWORK UNTIL FINAL BOLTING UP.

6.4 THE STEELWORK SHALL BE ACCURATELY ERECTED WITHIN THE FOLLOWING TOLERANCE.

SETTING OUT-PLAN DIMENSIONS	±10mm OVERALL BUILDING BUT NOT MORE THAN ±5mm IN ANY ONE 5 METER BAY
LEVELS-FOR STANCHIONS AND COLUMN BASE PLATES.	±5mm
PLUMB OF STANCHIONS, POSTS, ETC	0.1 % OF HEIGHT, BUT NOT MORE THAN ±5 mm OVERALL.
STRAIGHTNESS OR BOW OR OUT OF SQUARENESS OF SECTIONS AFTER ERECTION.	NOT MORE THAN THE ROLLING TOLERANCES AS GIVEN IN BS 5950 PART 2:2001

7.0 HOT-DIP GALVANIZING

7.1 THE SURFACE OF ALL STEEL DESCRIBED AS GALVANISED ARE TO BE THOROUGHLY AND EVENLY COATED. THE AVERAGE WEIGHT OF THE ZINC LAYER SHALL BE 610g/m^2 OF GALVANIZED SURFACE.

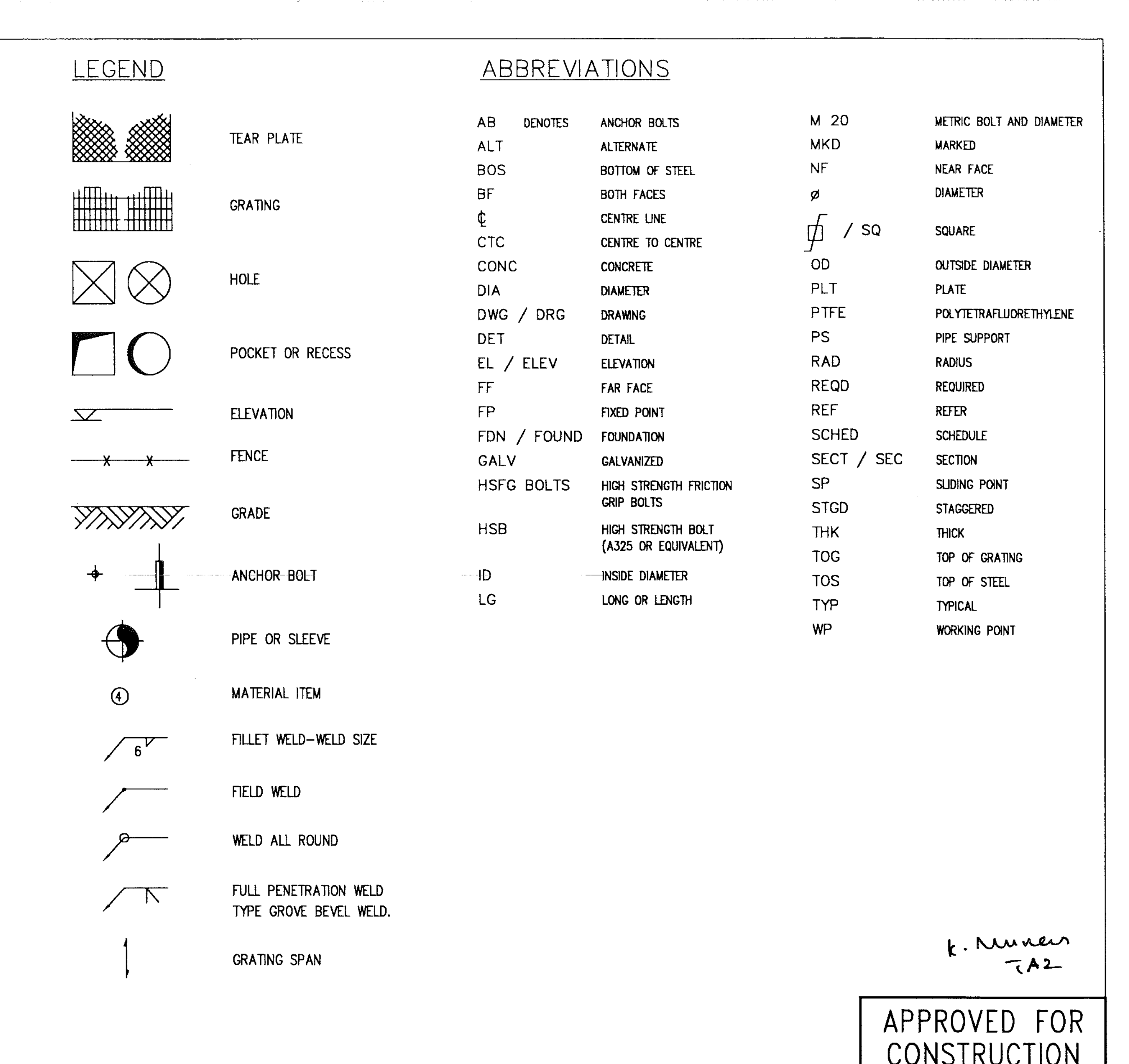
7.2 ALL DAMAGED GALVANIZED SURFACES AND ALL EDGES EXPOSED BY CUTTING AFTER GALVANIZING SHALL BE TREATED WITH TWO COATS OF ZINC PAINT SPRAYED IN ACCORDANCE WITH BS EN ISO 1461-1999.

8.0 CORROSION PROTECTION

8.1 CORROSION PROTECTION FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH CONSTRUCTION SPECIFICATION SP-1279 PART N CIVIL AND BUILDING CONSTRUCTION SPECIFICATION, PAINTING AND DECORATING. FOR ALL STEEL STRUCTURES WITHIN OIL & GAS PLANT SHALL BE AS PER SP-1246.

9.0 EARTHING CONNECTIONS

9.1 PROVIDE EARTHING BOSS FOR ALL COLUMNS AND STAIR STRINGERS RESTING ON GROUND / FOUNDATIONS. THE EARTHING BOSS DETAILS SHALL CONFIRM TO DRG No. STD-4-0305-01- -4



APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	TEAML.	J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	
			CHECKED				P D O APPROVAL	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

CAD DRAWING

SCALE : —

0 1 2 3 4 5 6 7

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16

DRWG.TYPE : STEEL STRUCTURE

DESCRIPTION : GENERAL NOTES, LEGEND AND ABBREVIATIONS

شركة تنمية نفط عمان

Petroleum Development Oman

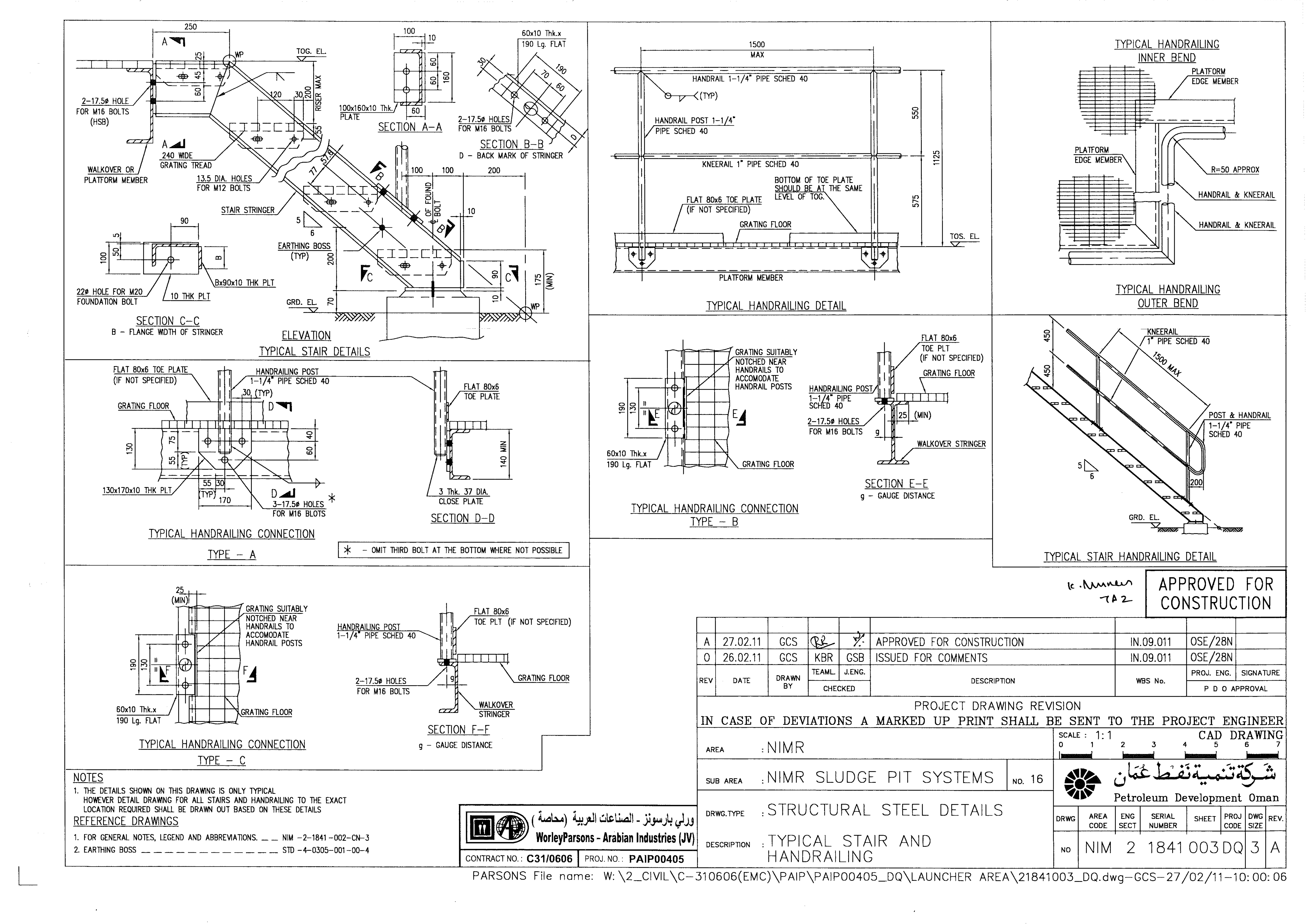
وورلي بارسونز - الصناعات العربية (محاصة)

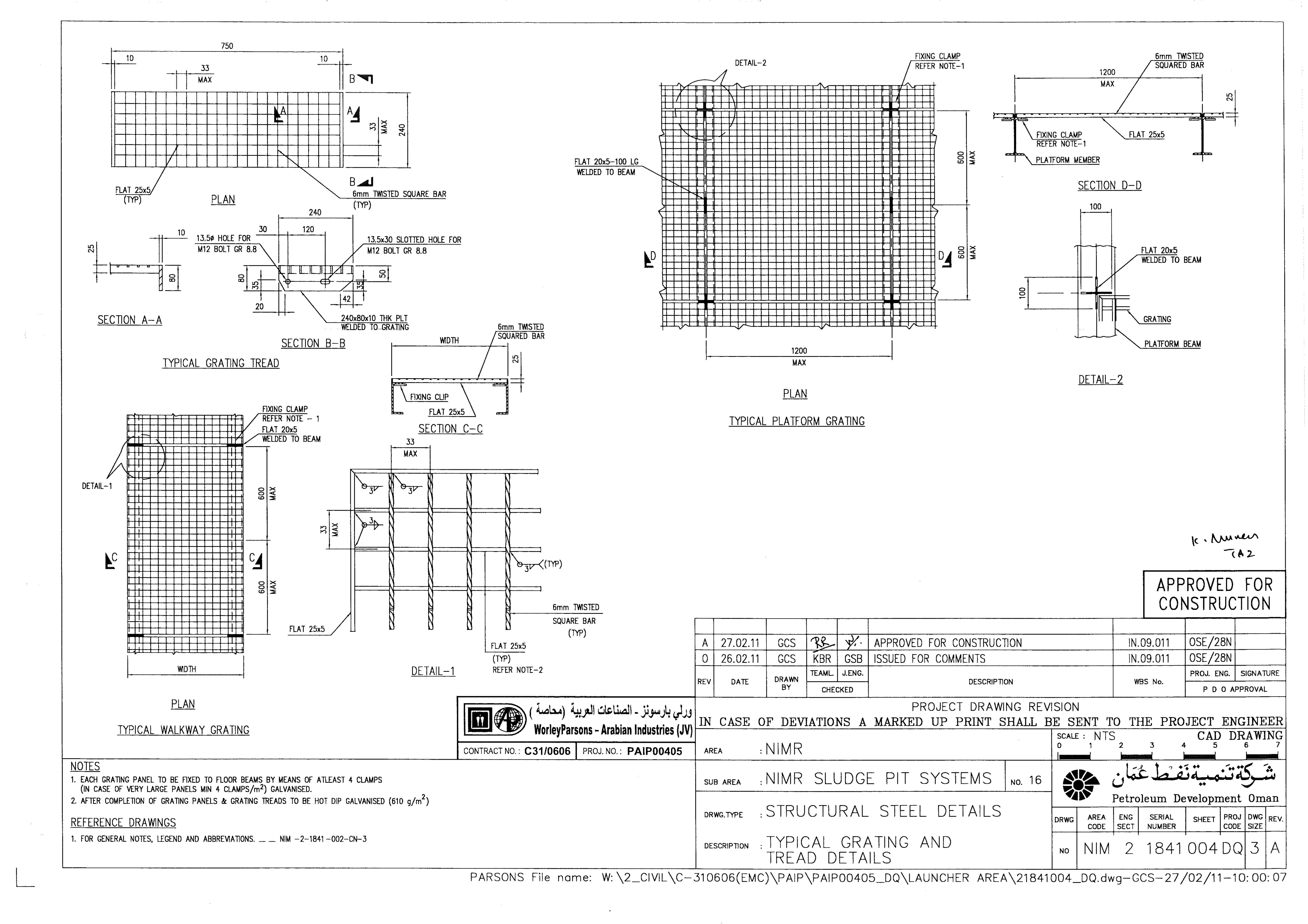
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

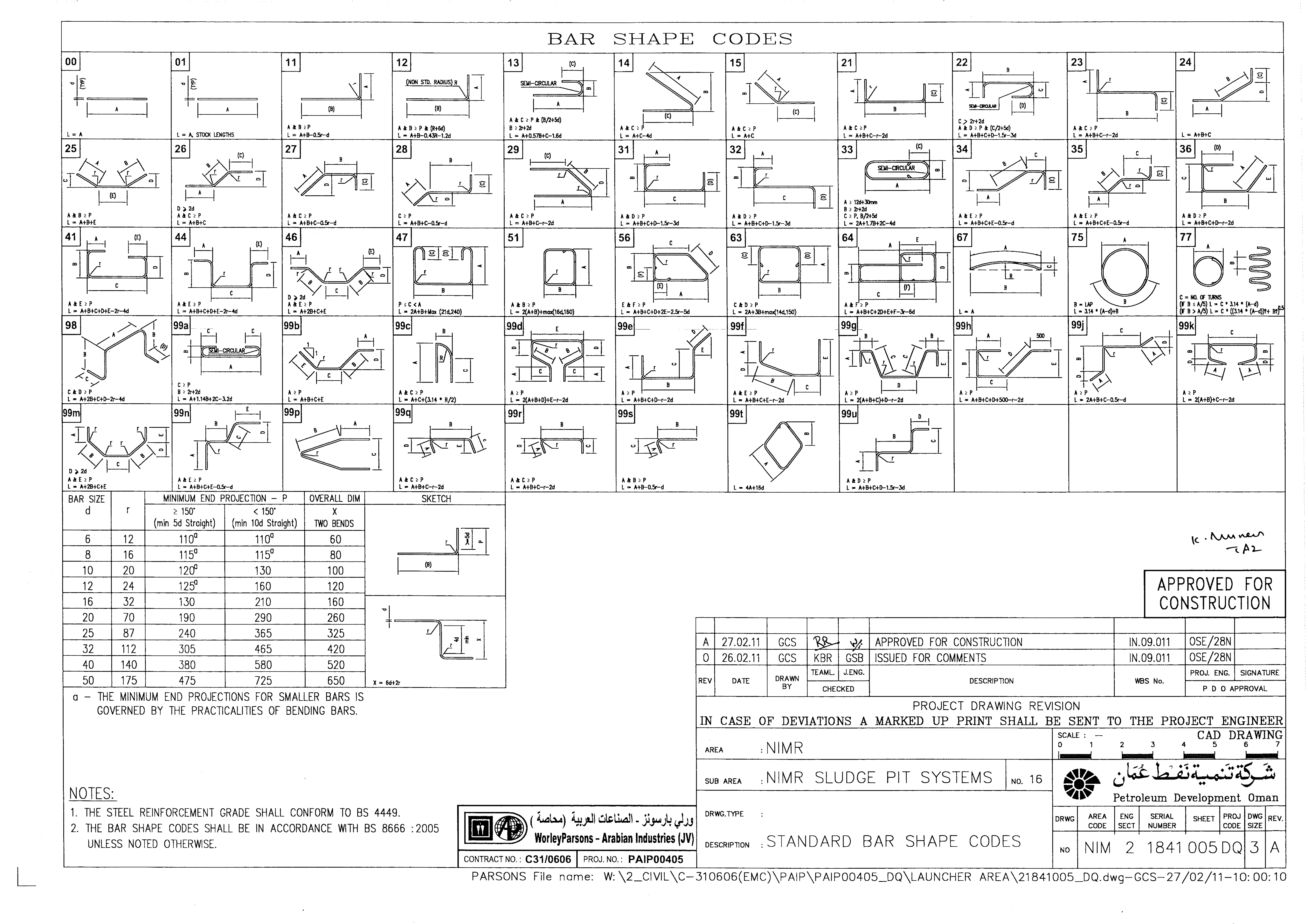
DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1841	002	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21841002_DQ.dwg-GCS-27/02/11-10:00:05


ELEVATION
TYPICAL STAIR DETAILS
2-17.5ø HOLE FOR M16 BOLTS (HSB)
WALKOVER OR PLATFORM MEMBER
240 WIDE GRATING TREAD
13.5 DIA. HOLES FOR M12 BOLTS
STAIR STRINGER
EARTHING BOSS (TYP)
TOG. EL.
RISER MAX
GRD. EL.
℄ OF FOUND BOLT
(MIN)
WP
SECTION A-A
100x160x10 Thk. PLATE
SECTION B-B
60x10 Thk.x 190 Lg. FLAT
2-17.5ø HOLES FOR M16 BOLTS
D - BACK MARK OF STRINGER
SECTION C-C
B - FLANGE WIDTH OF STRINGER
22ø HOLE FOR M20 FOUNDATION BOLT
10 THK PLT
Bx90x10 THK PLT
TYPICAL HANDRAILING DETAIL
HANDRAIL 1-1/4" PIPE SCHED 40
HANDRAIL POST 1-1/4" PIPE SCHED 40
KNEERAIL 1" PIPE SCHED 40
FLAT 80x6 TOE PLATE (IF NOT SPECIFIED)
BOTTOM OF TOE PLATE SHOULD BE AT THE SAME LEVEL OF TOG.
GRATING FLOOR
PLATFORM MEMBER
TOS. EL.
1500 MAX
TYPICAL HANDRAILING INNER BEND
TYPICAL HANDRAILING OUTER BEND
PLATFORM EDGE MEMBER
R=50 APPROX
HANDRAIL & KNEERAIL
TYPICAL HANDRAILING CONNECTION TYPE - A
FLAT 80x6 TOE PLATE (IF NOT SPECIFIED)
HANDRAILING POST 1-1/4" PIPE SCHED 40
130x170x10 THK PLT
3-17.5ø HOLES FOR M16 BLOTS
SECTION D-D
FLAT 80x6 TOE PLATE
3 Thk. 37 DIA. CLOSE PLATE
140 MIN
* - OMIT THIRD BOLT AT THE BOTTOM WHERE NOT POSSIBLE
TYPICAL HANDRAILING CONNECTION TYPE - B
GRATING SUITABLY NOTCHED NEAR HANDRAILS TO ACCOMODATE HANDRAIL POSTS
60x10 Thk.x 190 Lg. FLAT
SECTION E-E
g - GAUGE DISTANCE
FLAT 80x6 TOE PLT (IF NOT SPECIFIED)
HANDRAILING POST 1-1/4" PIPE SCHED 40
2-17.5ø HOLES FOR M16 BOLTS
WALKOVER STRINGER
TYPICAL STAIR HANDRAILING DETAIL
KNEERAIL 1" PIPE SCHED 40
1500 MAX
POST & HANDRAIL 1-1/4" PIPE SCHED 40
TYPICAL HANDRAILING CONNECTION TYPE - C
SECTION F-F
FLAT 80x6 TOE PLT (IF NOT SPECIFIED)
NOTES
1. THE DETAILS SHOWN ON THIS DRAWING IS ONLY TYPICAL HOWEVER DETAIL DRAWING FOR ALL STAIRS AND HANDRAILING TO THE EXACT LOCATION REQUIRED SHALL BE DRAWN OUT BASED ON THESE DETAILS
REFERENCE DRAWINGS
1. FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS. NIM -2-1841-002-CN-3
2. EARTHING BOSS STD -4-0305-001-00-4
APPROVED FOR CONSTRUCTION
A 27.02.11 GCS APPROVED FOR CONSTRUCTION IN.09.011 OSE/28N
0 26.02.11 GCS KBR GSB ISSUED FOR COMMENTS IN.09.011 OSE/28N
REV DATE DRAWN BY TEAML. J.ENG. CHECKED DESCRIPTION WBS No. PROJ. ENG. SIGNATURE P D O APPROVAL
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE : 1:1
CAD DRAWING
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16
DRWG.TYPE : STRUCTURAL STEEL DETAILS
DESCRIPTION : TYPICAL STAIR AND HANDRAILING
شركة تنمية نفط عمان
Petroleum Development Oman
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405
DRWG AREA CODE ENG SECT SERIAL NUMBER SHEET PROJ CODE DWG SIZE REV.
NO NIM 2 1841 003 DQ 3 A
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21841003_DQ.dwg-GCS-27/02/11-10:00:06



750
10
33
MAX
10
B
A
A
33
MAX
240
FLAT 25x5
(TYP)
PLAN
B
6mm TWISTED SQUARE BAR
(TYP)
240
10
30
120
13.5ø HOLE FOR
M12 BOLT GR 8.8
13.5x30 SLOTTED HOLE FOR
M12 BOLT GR 8.8
25
80
80
35
50
35
42
20
240x80x10 THK PLT
WELDED TO GRATING
SECTION A-A
SECTION B-B
TYPICAL GRATING TREAD
WIDTH
6mm TWISTED
SQUARED BAR
25
FIXING CLIP
FLAT 25x5
SECTION C-C
FIXING CLAMP
REFER NOTE - 1
FLAT 20x5
WELDED TO BEAM
DETAIL-1
600
MAX
C
C
600
MAX
WIDTH
PLAN
TYPICAL WALKWAY GRATING
33
MAX
33
MAX
3
3
3
3 (TYP)
6mm TWISTED
SQUARE BAR
(TYP)
FLAT 25x5
FLAT 25x5
(TYP)
REFER NOTE-2
DETAIL-1
DETAIL-2
FIXING CLAMP
REFER NOTE-1
FLAT 20x5-100 LG
WELDED TO BEAM
600
MAX
D
D
600
MAX
1200
MAX
PLAN
TYPICAL PLATFORM GRATING
6mm TWISTED
SQUARED BAR
1200
MAX
25
FIXING CLAMP
REFER NOTE-1
FLAT 25x5
PLATFORM MEMBER
SECTION D-D
100
FLAT 20x5
WELDED TO BEAM
100
GRATING
PLATFORM BEAM
DETAIL-2
K. Muneer
TA2
APPROVED FOR
CONSTRUCTION
A | 27.02.11 | GCS | RR | | APPROVED FOR CONSTRUCTION | IN.09.011 | OSE/28N
0 | 26.02.11 | GCS | KBR | GSB | ISSUED FOR COMMENTS | IN.09.011 | OSE/28N
REV | DATE | DRAWN BY | TEAML. | J.ENG. | CHECKED | DESCRIPTION | WBS No. | PROJ. ENG. | SIGNATURE | P D O APPROVAL
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE : NTS
CAD DRAWING
0 1 2 3 4 5 6 7
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEMS
NO. 16
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG.TYPE : STRUCTURAL STEEL DETAILS
DESCRIPTION : TYPICAL GRATING AND TREAD DETAILS
DRWG NO | AREA CODE | ENG SECT | SERIAL NUMBER | SHEET | PROJ CODE | DWG SIZE | REV.
NIM | 2 | 1841 | 004 | DQ | 3 | A
NOTES
1. EACH GRATING PANEL TO BE FIXED TO FLOOR BEAMS BY MEANS OF ATLEAST 4 CLAMPS
(IN CASE OF VERY LARGE PANELS MIN 4 CLAMPS/m2) GALVANISED.
2. AFTER COMPLETION OF GRATING PANELS & GRATING TREADS TO BE HOT DIP GALVANISED (610 g/m2)
REFERENCE DRAWINGS
1. FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS. — — NIM -2-1841-002-CN-3
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21841004_DQ.dwg-GCS-27/02/11-10:00:07



BAR SIZE d	r	MINIMUM END PROJECTION – P ≥ 150° (min 5d Straight)	MINIMUM END PROJECTION – P < 150° (min 10d Straight)	OVERALL DIM X TWO BENDS
6	12	110ᵅ	110ᵅ	60
8	16	115ᵅ	115ᵅ	80
10	20	120ᵅ	130	100
12	24	125ᵅ	160	120
16	32	130	210	160
20	70	190	290	260
25	87	240	365	325
32	112	305	465	420
40	140	380	580	520
50	175	475	725	650

SKETCH: X = 6d+2r

a – THE MINIMUM END PROJECTIONS FOR SMALLER BARS IS GOVERNED BY THE PRACTICALITIES OF BENDING BARS.

NOTES:

1. THE STEEL REINFORCEMENT GRADE SHALL CONFORM TO BS 4449.
2. THE BAR SHAPE CODES SHALL BE IN ACCORDANCE WITH BS 8666 :2005 UNLESS NOTED OTHERWISE.

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	P D O APPROVAL PROJ. ENG.	P D O APPROVAL SIGNATURE
A	27.02.11	GCS	RB	(signature)	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE : — CAD DRAWING

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16

DRWG.TYPE :

DESCRIPTION : STANDARD BAR SHAPE CODES

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1841	005	DQ	3	A

PIPE SUPPORT/ SLEEPER NUMBER	REFERENCE DRAWINGS			REMARKS
	STEELWORK DETAILS	SLEEPER/FOUNDATION DETAILS	LOCATION PLAN	
PS-001 TO 034	–	–	–	RECEIVER AREA
PS-035 TO 050	–	–	–	SPARE
PS-051	NIM-2-1842-002-DQ-3	NIM-2-1842-003-DQ-3	NIM-2-0992-001-DQ-1	–
PS-052				–
PS-053				–
PS-054				–
PS-055	NIM-2-1842-005-DQ-3	NIM-2-1842-006-DQ-3		–
PS-056	NIM-2-1842-008-DQ-3	NIM-2-1842-009-DQ-3		–
PS-057	NIM-2-1842-011-DQ-3	–	NIM-3-2132-002-DQ-1	–
PS-058	NIM-2-1842-012-DQ-3	–	NIM-2-0992-001-DQ-1	–
PS-059	NIM-2-1842-013-DQ-3	NIM-2-1842-006-DQ-3		–
PS-060	NIM-2-1842-014-DQ-3	NIM-2-1842-009-DQ-3		–
PS-061	NIM-2-1842-012-DQ-3			–
PS-062	NIM-2-1842-015-DQ-3	NIM-2-1842-006-DQ-3		–
PS-063	NIM-2-1842-016-DQ-3	–		–
PS-064	NIM-2-1842-015-DQ-3	NIM-2-1842-006-DQ-3		–
PS-065	NIM-2-1842-015-DQ-3	NIM-2-1842-006-DQ-3		–
PS-066	NIM-2-1842-016-DQ-3	–		–
PS-067 TO 075	–	–	–	SPARE
U BOLT DET.	NIM-2-1842-017-DQ-3	–	–	–
PIPE GUIDE DET.	NIM-2-1842-018-DQ-3	–	–	–

PIPE SUPPORT/ SLEEPER NUMBER	REFERENCE DRAWINGS			REMARKS
	STEELWORK DETAILS	SLEEPER/FOUNDATION DETAILS	LOCATION PLAN	
SL-001	–	–	–	–
SL-002	–	–	–	–
SL-003	–	–	–	–
SL-004	–	–	–	–
SL-005	–	–	–	–
SL-006	–	–	–	–
SL-007	–	–	–	–
SL-008	–	–	–	–
SL-009	–	–	–	–
SL-010	–	–	–	–
SL-011	–	–	–	–
SL-012	–	–	–	–
SL-013	–	–	–	–
SL-014	–	–	–	–
SL-015	–	–	–	–
SL-016	–	–	–	–
SL-017	–	–	–	–
SL-018	–	–	–	–
SL-019	–	–	–	–
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SL-021	–	–	–	–
SL-022	–	–	–	–
SL-023	–	–	–	–
SL-024	–	–	–	–
SL-025	–	–	–	–

K. Muneer
TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	P D O APPROVAL PROJ. ENG.	P D O APPROVAL SIGNATURE
A	27.02.11	GCS	RB	[illegible]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

NOTES

1. CONTRACTOR SHALL REFER PIPING PLAN ,PRIOR TO FABRICATION, INSTALLATION OF PIPE SUPPORTS

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S

DRAWING NUMBER

SCALE : NTS
CAD DRAWING

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16

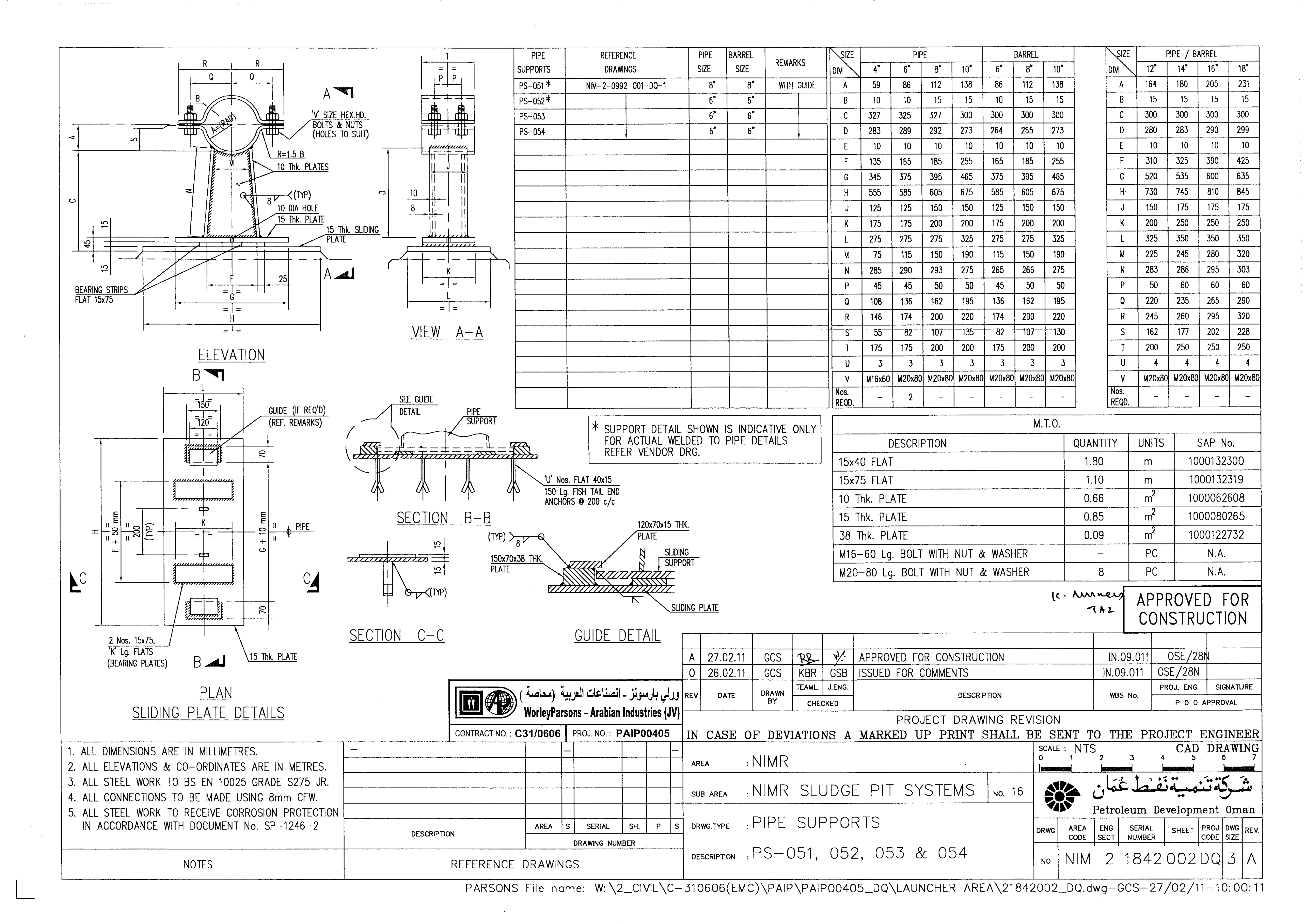
DRWG.TYPE : PIPE SUPPORTS (LAUNCHER)

DESCRIPTION : INDEX SHEETS

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	001	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21842001_DQ.dwg-GCS-27/02/11-10:00:10



PIPE SUPPORTS	REFERENCE DRAWINGS	PIPE SIZE	BARREL SIZE	REMARKS
PS-051 *	NIM-2-0992-001-DQ-1	8"	8"	WITH GUIDE
PS-052 *		6"	6"	
PS-053		6"	6"	
PS-054		6"	6"	

SIZE / DIM	PIPE 4"	PIPE 6"	PIPE 8"	PIPE 10"	BARREL 6"	BARREL 8"	BARREL 10"
A	59	86	112	138	86	112	138
B	10	10	15	15	10	15	15
C	327	325	327	300	300	300	300
D	283	289	292	273	264	265	273
E	10	10	10	10	10	10	10
F	135	165	185	255	165	185	255
G	345	375	395	465	375	395	465
H	555	585	605	675	585	605	675
J	125	125	150	150	125	150	150
K	175	175	200	200	175	200	200
L	275	275	275	325	275	275	325
M	75	115	150	190	115	150	190
N	285	290	293	275	265	266	275
P	45	45	50	50	45	50	50
Q	108	136	162	195	136	162	195
R	146	174	200	220	174	200	220
S	55	82	107	135	82	107	130
T	175	175	200	200	175	200	200
U	3	3	3	3	3	3	3
V	M16x60	M20x80	M20x80	M20x80	M20x80	M20x80	M20x80
Nos. REQD.	–	2	–	–	–	–	–

SIZE / DIM	PIPE / BARREL 12"	14"	16"	18"
A	164	180	205	231
B	15	15	15	15
C	300	300	300	300
D	280	283	290	299
E	10	10	10	10
F	310	325	390	425
G	520	535	600	635
H	730	745	810	845
J	150	175	175	175
K	200	250	250	250
L	325	350	350	350
M	225	245	280	320
N	283	286	295	303
P	50	60	60	60
Q	220	235	265	290
R	245	260	295	320
S	162	177	202	228
T	200	250	250	250
U	4	4	4	4
V	M20x80	M20x80	M20x80	M20x80
Nos. REQD.	–	–	–	–

* SUPPORT DETAIL SHOWN IS INDICATIVE ONLY FOR ACTUAL WELDED TO PIPE DETAILS REFER VENDOR DRG.

M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
15x40 FLAT	1.80	m	1000132300
15x75 FLAT	1.10	m	1000132319
10 Thk. PLATE	0.66	m^2	1000062608
15 Thk. PLATE	0.85	m^2	1000080265
38 Thk. PLATE	0.09	m^2	1000122732
M16-60 Lg. BOLT WITH NUT & WASHER	–	PC	N.A.
M20-80 Lg. BOLT WITH NUT & WASHER	8	PC	N.A.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR.
4. ALL CONNECTIONS TO BE MADE USING 8mm CFW.
5. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
–		–				–

DRAWING NUMBER

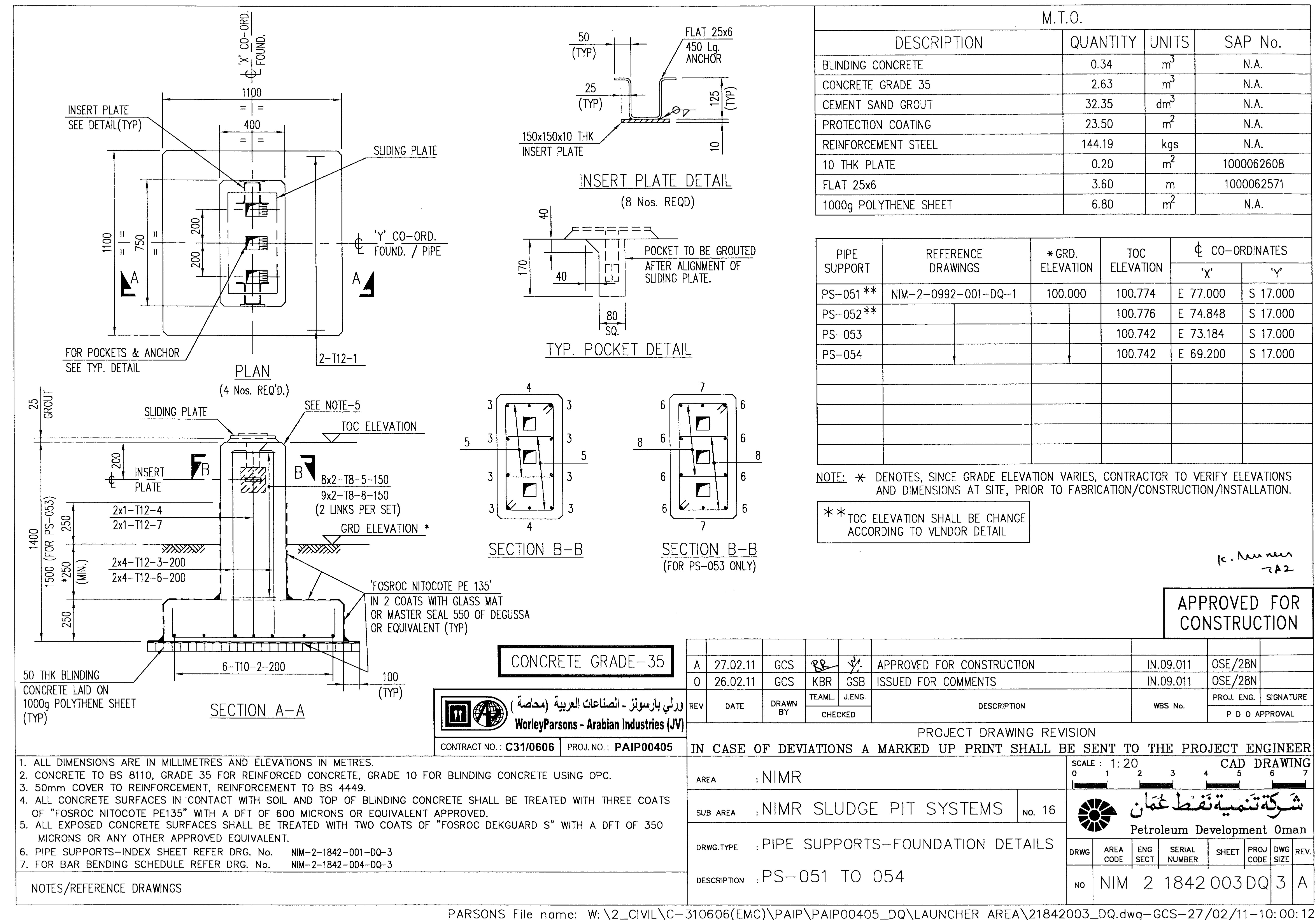
SCALE : NTS
CAD DRAWING

AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS-051, 052, 053 & 054

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	002	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21842002_DQ.dwg-GCS-27/02/11-10:00:11



M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	0.34	m^3	N.A.
CONCRETE GRADE 35	2.63	m^3	N.A.
CEMENT SAND GROUT	32.35	dm^3	N.A.
PROTECTION COATING	23.50	m^2	N.A.
REINFORCEMENT STEEL	144.19	kgs	N.A.
10 THK PLATE	0.20	m^2	1000062608
FLAT 25x6	3.60	m	1000062571
1000g POLYTHENE SHEET	6.80	m^2	N.A.

PIPE SUPPORT	REFERENCE DRAWINGS	*GRD. ELEVATION	TOC ELEVATION	¢ CO-ORDINATES 'X'	'Y'
PS-051 **	NIM-2-0992-001-DQ-1	100.000	100.774	E 77.000	S 17.000
PS-052 **			100.776	E 74.848	S 17.000
PS-053			100.742	E 73.184	S 17.000
PS-054			100.742	E 69.200	S 17.000

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

** TOC ELEVATION SHALL BE CHANGE ACCORDING TO VENDOR DETAIL

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

(ورلي بارسونز - الصناعات العربية (محاصة
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. ALL CONCRETE SURFACES IN CONTACT WITH SOIL AND TOP OF BLINDING CONCRETE SHALL BE TREATED WITH THREE COATS OF "FOSROC NITOCOTE PE135" WITH A DFT OF 600 MICRONS OR EQUIVALENT APPROVED.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. PIPE SUPPORTS-INDEX SHEET REFER DRG. No. NIM-2-1842-001-DQ-3
7. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-1842-004-DQ-3

NOTES/REFERENCE DRAWINGS

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16

DRWG.TYPE : PIPE SUPPORTS-FOUNDATION DETAILS

DESCRIPTION : PS-051 TO 054

SCALE : 1:20 CAD DRAWING

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Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	1842	003	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21842003_DQ.dwg-GCS-27/02/11-10:00:12



BAR BENDING SCHEDULE

JOB NO.: PAIP00238
PART ID.: PRODUCTION STATION PS-051 TO 054

REF. DWG NO.: NIM-2-1842-003-DQ-3

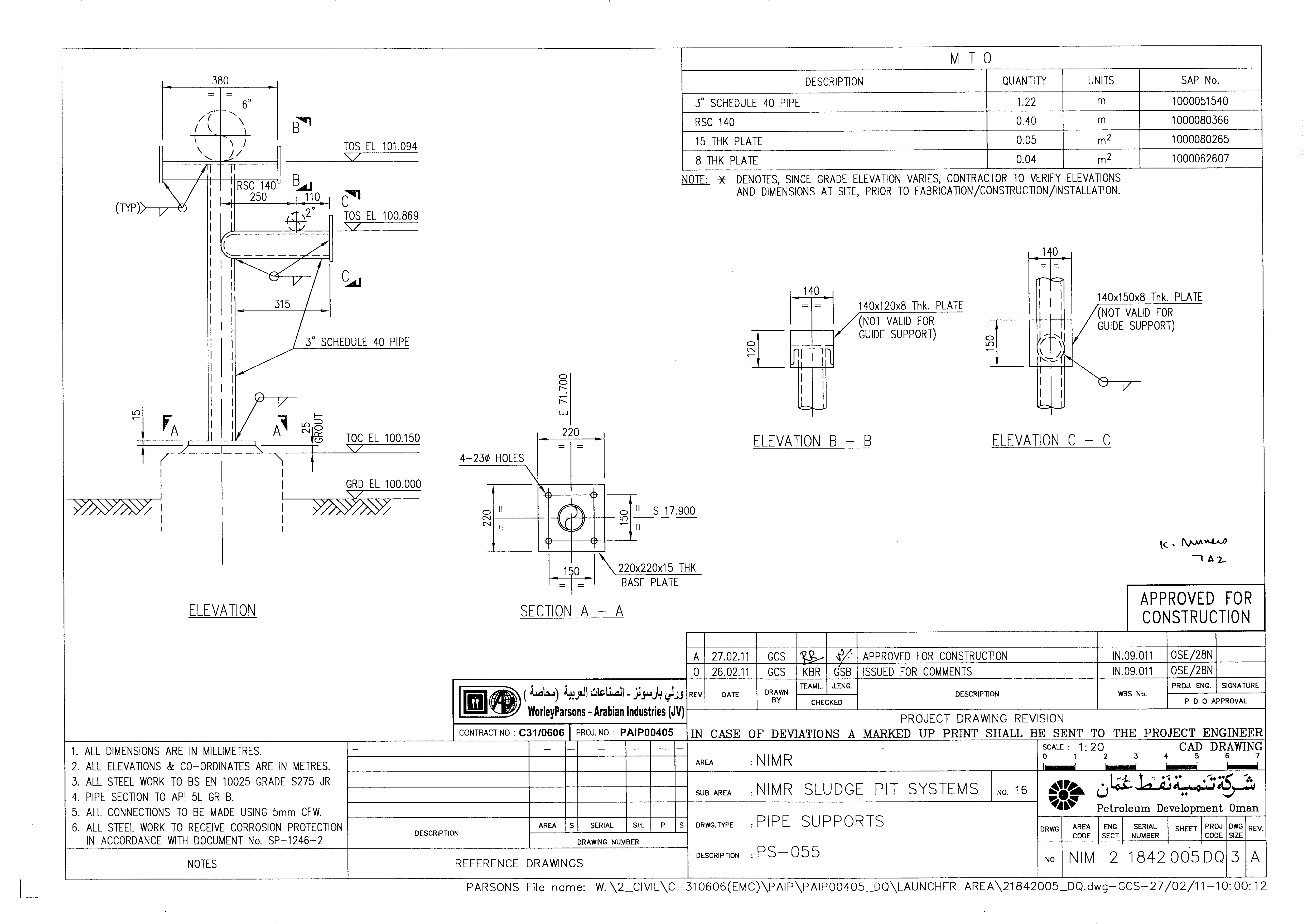
Document No.: NIM-2-1842-004-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG
Date: 27.02.11

Total MTO for Rebars.

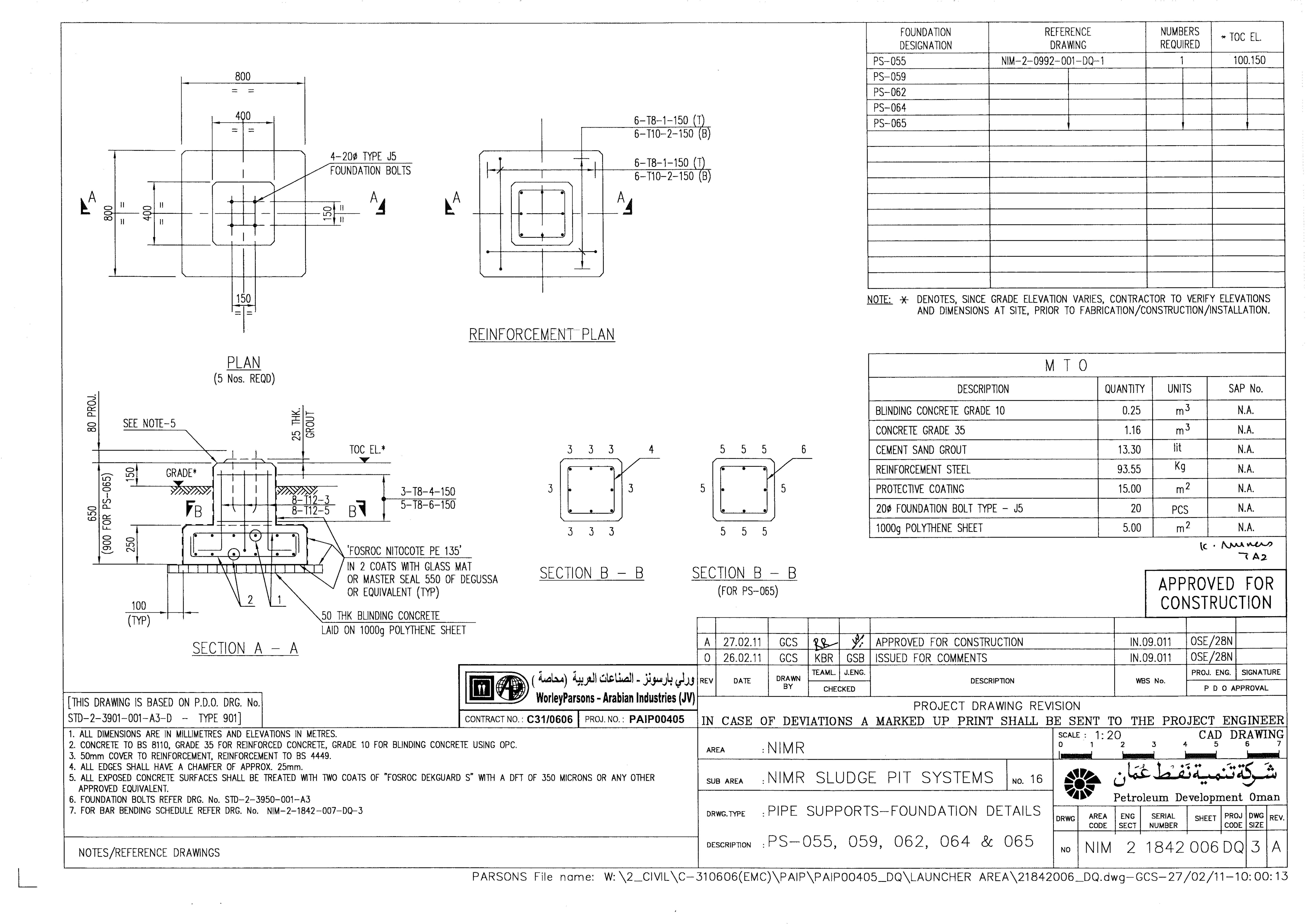
Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		110.55	30.60	91.00				
Weight (Kgs)		44.22	18.98	80.99				
Total Weight (Kgs)								144.190

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PS-051 TO 054	1	T12	4	2	8	1275	21	150	1000	150		
	2	T10	4	6	24	1275	21	150	1000	150		
	3	T12	3	8	24	2100	31	100	1300	650	100	
	4	T12	3	2	6	1575	11	300	1290			
	5	T8	3	16	48	1675	51	450	300			
	6	T12	1	8	8	2200	31	100	1400	650	100	
	7	T12	1	2	2	1675	11	300	1390			
	8	T8	1	18	18	1675	51	450	300			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	1.22	m	1000051540
RSC 140	0.40	m	1000080366
15 THK PLATE	0.05	m^2	1000080265
8 THK PLATE	0.04	m^2	1000062607



FOUNDATION DESIGNATION	REFERENCE DRAWING	NUMBERS REQUIRED	* TOC EL.
PS-055	NIM-2-0992-001-DQ-1	1	100.150
PS-059			
PS-062			
PS-064			
PS-065			

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE GRADE 10	0.25	m^3	N.A.
CONCRETE GRADE 35	1.16	m^3	N.A.
CEMENT SAND GROUT	13.30	lit	N.A.
REINFORCEMENT STEEL	93.55	Kg	N.A.
PROTECTIVE COATING	15.00	m^2	N.A.
20ø FOUNDATION BOLT TYPE – J5	20	PCS	N.A.
1000g POLYTHENE SHEET	5.00	m^2	N.A.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3901-001-A3-D – TYPE 901]

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. ALL EDGES SHALL HAVE A CHAMFER OF APPROX. 25mm.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOUNDATION BOLTS REFER DRG. No. STD-2-3950-001-A3
7. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-1842-007-DQ-3

NOTES/REFERENCE DRAWINGS

SCALE : 1:20 CAD DRAWING

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16

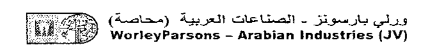
DRWG.TYPE : PIPE SUPPORTS–FOUNDATION DETAILS

DESCRIPTION : PS–055, 059, 062, 064 & 065

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	006	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21842006_DQ.dwg-GCS-27/02/11-10:00:13



BAR BENDING SCHEDULE

JOB NO.: PAIP00238
PART ID.: PRODUCTION STATION
PS-055,059,062,064 & 065

REF. DWG NO.: NIM-2-1842-006-DQ-3

Document No.: NIM-2-1842-007-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG RL
Date: 27.02.11

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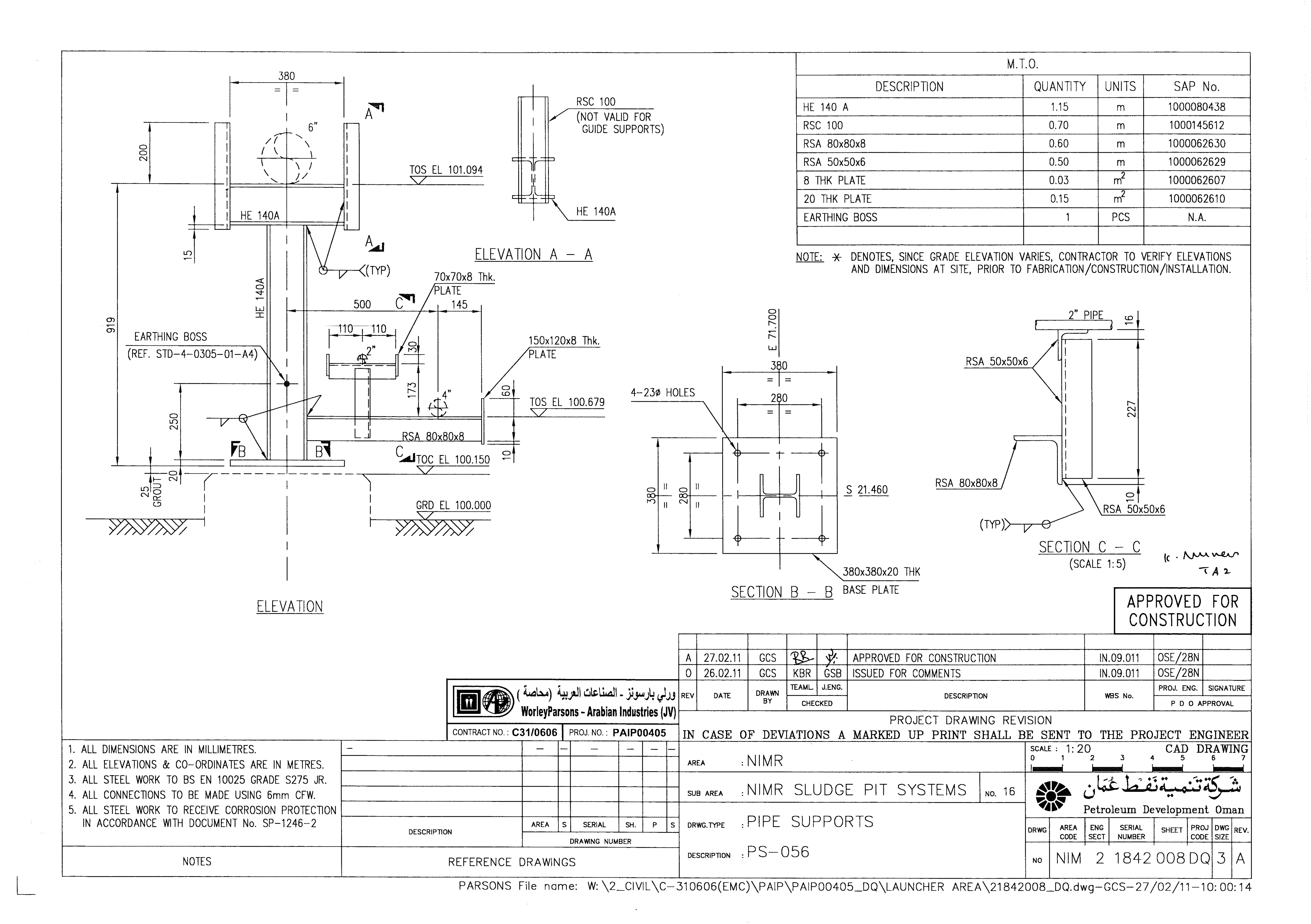
Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		78.88	55.50	31.00				
Weight (Kgs)		31.55	34.41	27.59				

Total Weight (Kgs) 93.550

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PS-055,059,062,	1	T8	5	12	60	925	21	125	700	125		
064 & 065	2	T10	5	12	60	925	21	125	700	125		
	3	T12	4	8	32	725	11	200	530			
	4	T8	4	3	12	1375	51	300	300			
	5	T12	1	8	8	975	11	200	780			
	6	T8	1	5	5	1375	51	300	300			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



M.T.O.			
DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 140 A	1.15	m	1000080438
RSC 100	0.70	m	1000145612
RSA 80x80x8	0.60	m	1000062630
RSA 50x50x6	0.50	m	1000062629
8 THK PLATE	0.03	m^2	1000062607
20 THK PLATE	0.15	m^2	1000062610
EARTHING BOSS	1	PCS	N.A.

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	P D O APPROVAL PROJ. ENG.	P D O APPROVAL SIGNATURE
A	27.02.11	GCS	RB	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR.
4. ALL CONNECTIONS TO BE MADE USING 6mm CFW.
5. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

NOTES

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
–	–	–	–	–	–	–

DRAWING NUMBER

REFERENCE DRAWINGS

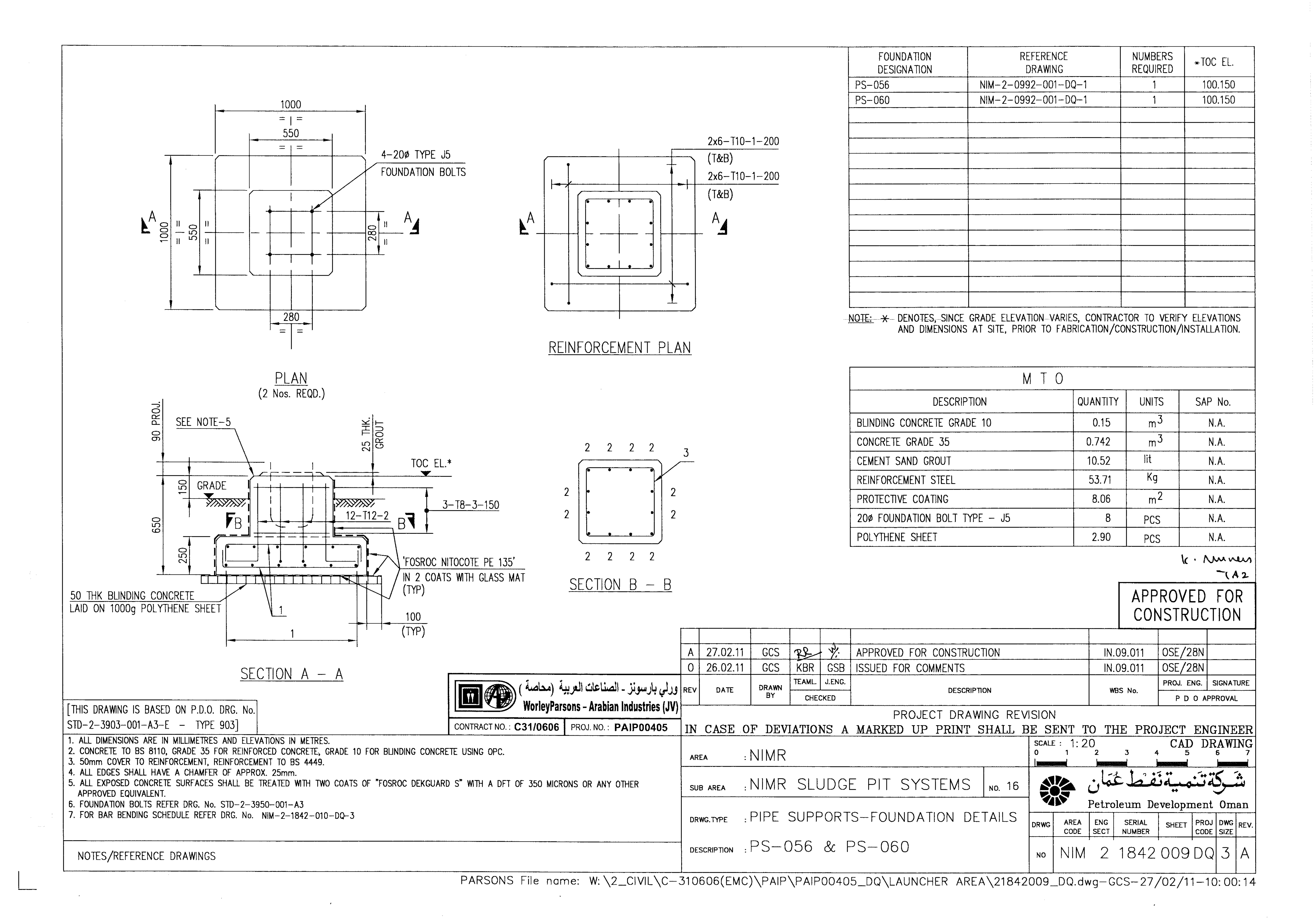
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS-056

SCALE : 1:20 CAD DRAWING

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	008	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21842008_DQ.dwg-GCS-27/02/11-10:00:14



FOUNDATION DESIGNATION	REFERENCE DRAWING	NUMBERS REQUIRED	*TOC EL.
PS-056	NIM-2-0992-001-DQ-1	1	100.150
PS-060	NIM-2-0992-001-DQ-1	1	100.150

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE GRADE 10	0.15	m^3	N.A.
CONCRETE GRADE 35	0.742	m^3	N.A.
CEMENT SAND GROUT	10.52	lit	N.A.
REINFORCEMENT STEEL	53.71	Kg	N.A.
PROTECTIVE COATING	8.06	m^2	N.A.
20ø FOUNDATION BOLT TYPE - J5	8	PCS	N.A.
POLYTHENE SHEET	2.90	PCS	N.A.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	TEAML.	J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

وورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3903-001-A3-E - TYPE 903]

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. ALL EDGES SHALL HAVE A CHAMFER OF APPROX. 25mm.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOUNDATION BOLTS REFER DRG. No. STD-2-3950-001-A3
7. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-1842-010-DQ-3

NOTES/REFERENCE DRAWINGS

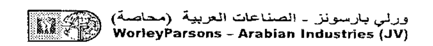
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16
DRWG. TYPE : PIPE SUPPORTS-FOUNDATION DETAILS
DESCRIPTION : PS-056 & PS-060

SCALE : 1:20 CAD DRAWING

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Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	1842	009	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21842009_DQ.dwg-GCS-27/02/11-10:00:14



BAR BENDING SCHEDULE

JOB NO.: PAIP00238
PART ID.: PRODUCTION STATION
PS-056 & 060

REF. DWG NO.: NIM-2-1842-009-DQ-3

Document No.: NIM-2-1842-010-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG
Date: 27.02.11

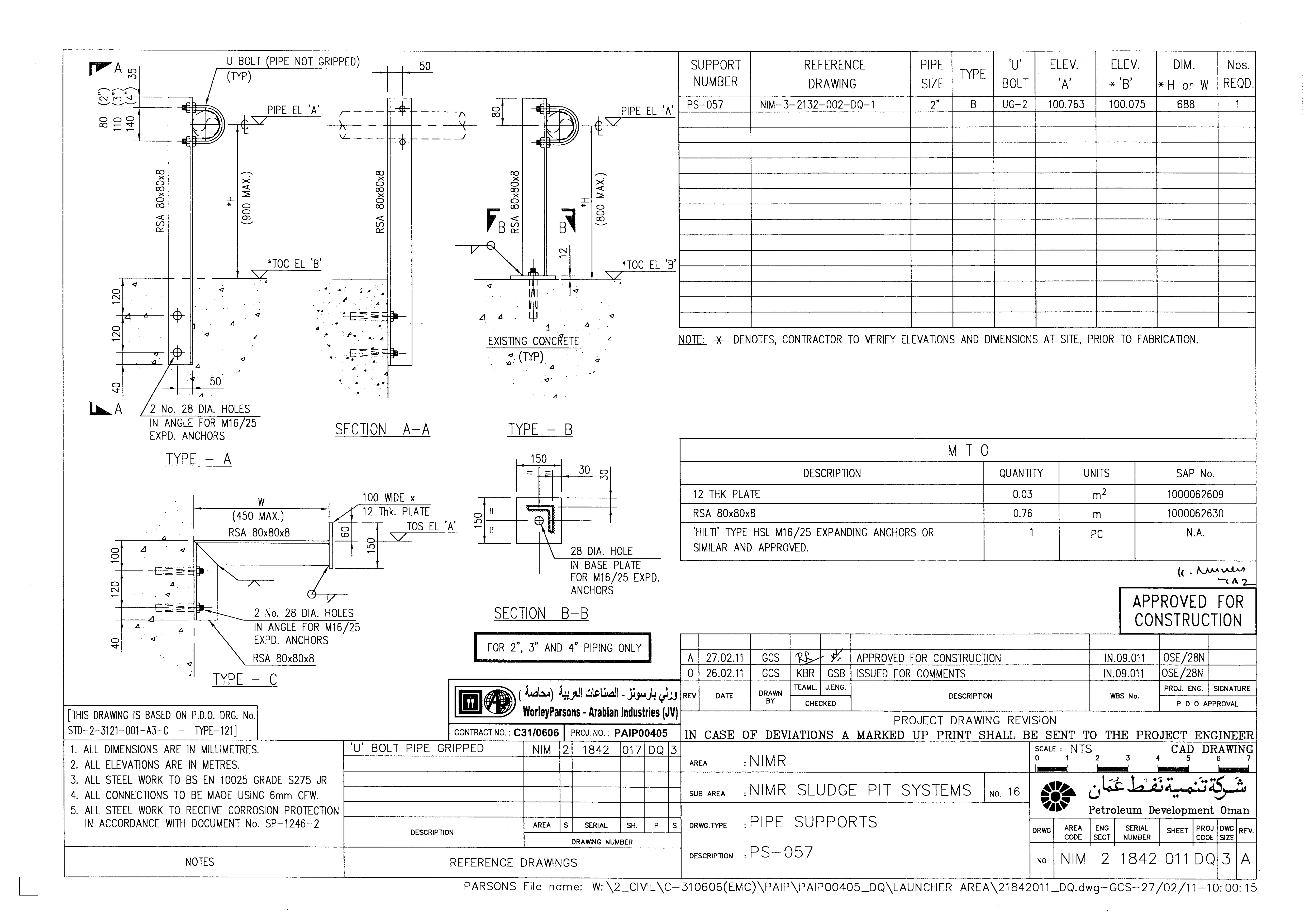
Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		11.85	54.00	17.40				
Weight (Kgs)		4.74	33.48	15.49				

Total Weight (Kgs) 53.710

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PS-056 & 060	1	T10	2	24	48	1125	21	125	900	125		
	2	T12	2	12	24	725	11	200	530			
	3	T8	2	3	6	1975	51	450	450			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



SUPPORT NUMBER	REFERENCE DRAWING	PIPE SIZE	TYPE	'U' BOLT	ELEV. 'A'	ELEV. *'B'	DIM. *H or W	Nos. REQD.
PS-057	NIM-3-2132-002-DQ-1	2"	B	UG-2	100.763	100.075	688	1

NOTE: * DENOTES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
12 THK PLATE	0.03	m^2	1000062609
RSA 80x80x8	0.76	m	1000062630
'HILTI' TYPE HSL M16/25 EXPANDING ANCHORS OR SIMILAR AND APPROVED.	1	PC	N.A.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	TEAML.	J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RF		APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

CHECKED — P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3121-001-A3-C – TYPE-121]

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. ALL CONNECTIONS TO BE MADE USING 6mm CFW.
5. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

NOTES

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
'U' BOLT PIPE GRIPPED	NIM	2	1842	017	DQ	3

DRAWING NUMBER

REFERENCE DRAWINGS

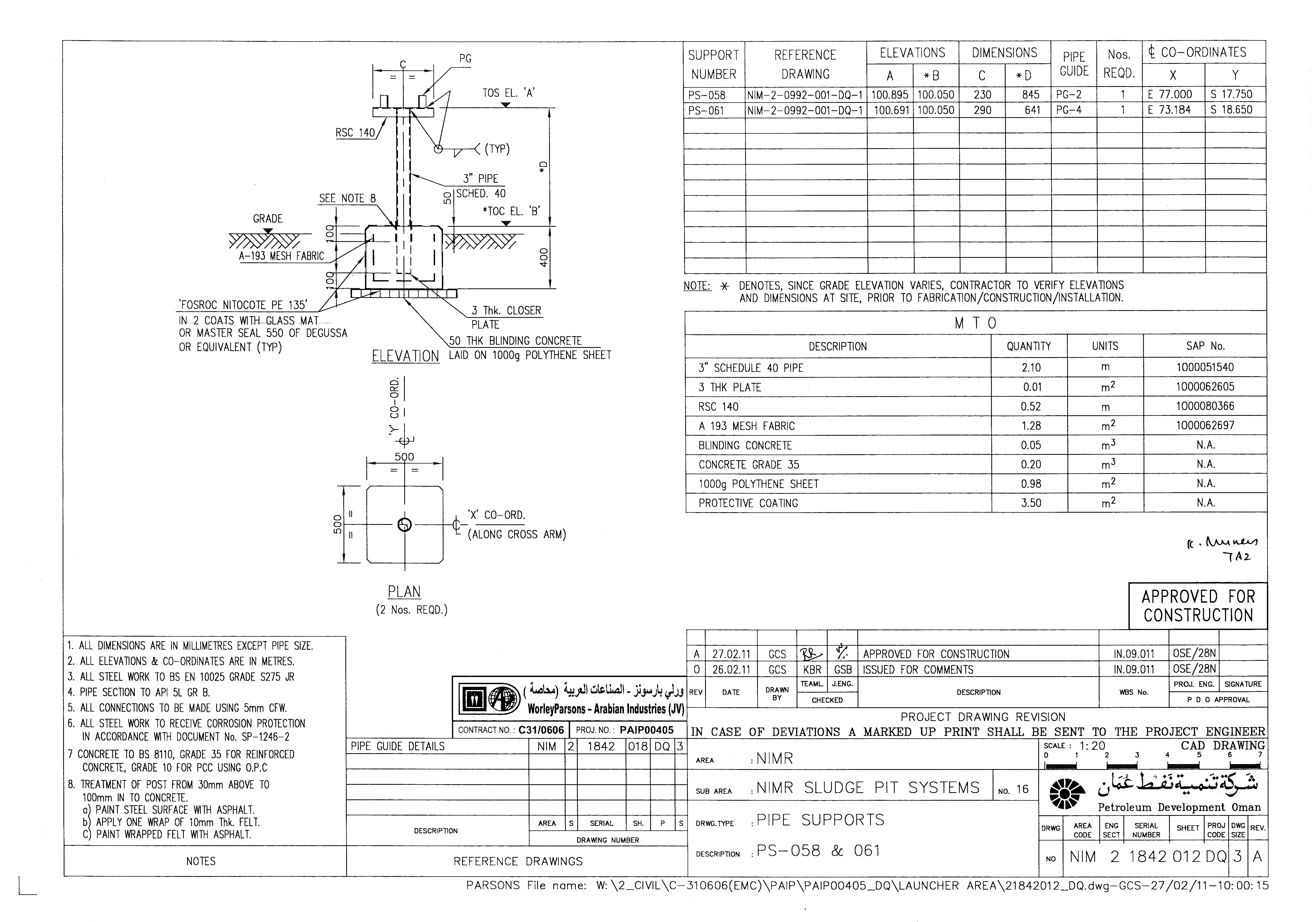
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS–057

SCALE : NTS CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	011	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21842011_DQ.dwg-GCS-27/02/11-10:00:15



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS *B	DIMENSIONS C	DIMENSIONS *D	PIPE GUIDE	Nos. REQD.	¢ CO-ORDINATES X	¢ CO-ORDINATES Y
PS-058	NIM-2-0992-001-DQ-1	100.895	100.050	230	845	PG-2	1	E 77.000	S 17.750
PS-061	NIM-2-0992-001-DQ-1	100.691	100.050	290	641	PG-4	1	E 73.184	S 18.650

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

MTO

DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	2.10	m	1000051540
3 THK PLATE	0.01	m^2	1000062605
RSC 140	0.52	m	1000080366
A 193 MESH FABRIC	1.28	m^2	1000062697
BLINDING CONCRETE	0.05	m^3	N.A.
CONCRETE GRADE 35	0.20	m^3	N.A.
1000g POLYTHENE SHEET	0.98	m^2	N.A.
PROTECTIVE COATING	3.50	m^2	N.A.

APPROVED FOR CONSTRUCTION

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT PIPE SIZE.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2
7. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR PCC USING O.P.C
8. TREATMENT OF POST FROM 30mm ABOVE TO 100mm IN TO CONCRETE.
   a) PAINT STEEL SURFACE WITH ASPHALT.
   b) APPLY ONE WRAP OF 10mm Thk. FELT.
   c) PAINT WRAPPED FELT WITH ASPHALT.

NOTES

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPE GUIDE DETAILS	NIM	2	1842	018	DQ	3

REFERENCE DRAWINGS

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

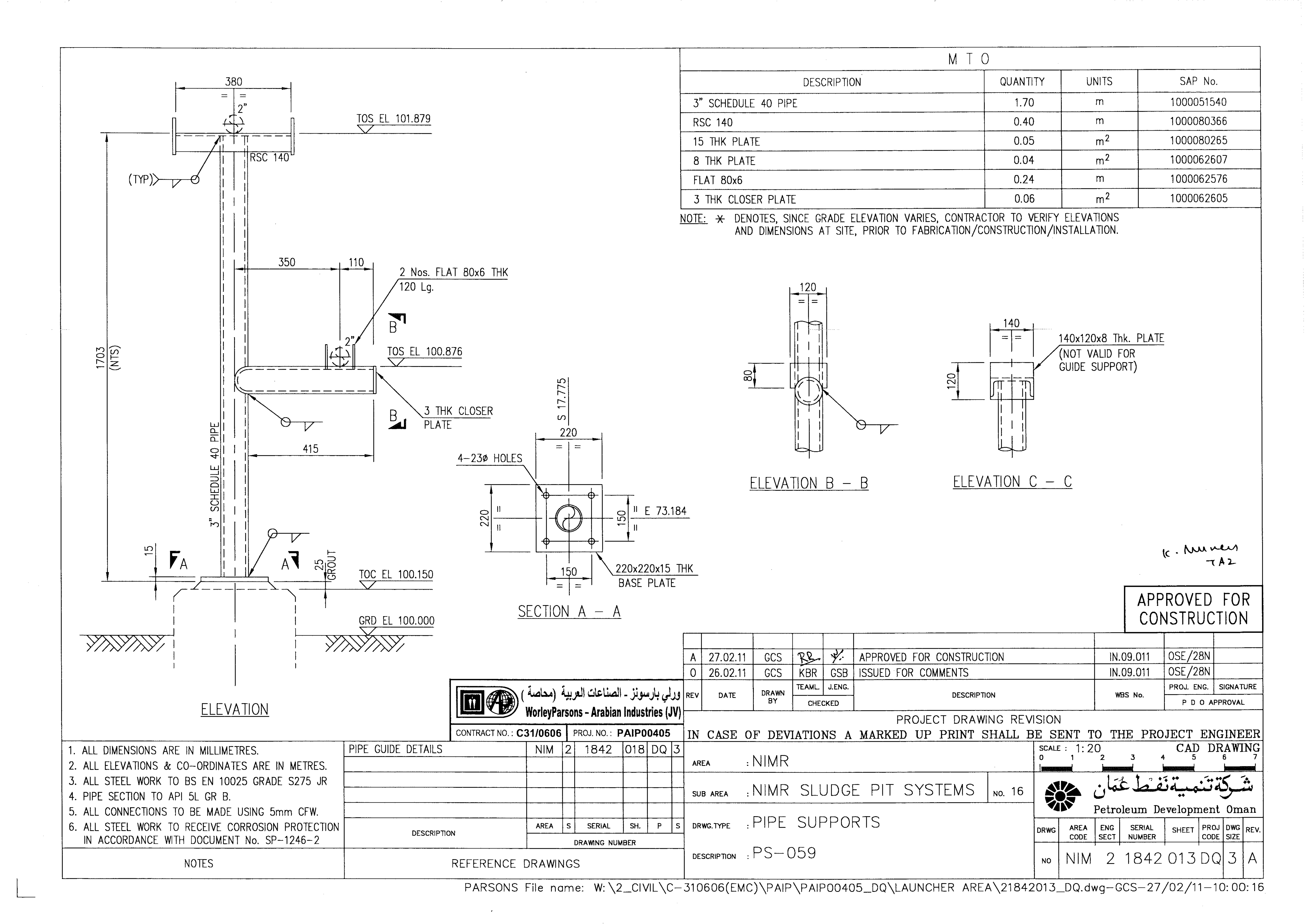
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS-058 & 061

SCALE : 1:20 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	012	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21842012_DQ.dwg-GCS-27/02/11-10:00:15



M T O			
DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	1.70	m	1000051540
RSC 140	0.40	m	1000080366
15 THK PLATE	0.05	m^2	1000080265
8 THK PLATE	0.04	m^2	1000062607
FLAT 80x6	0.24	m	1000062576
3 THK CLOSER PLATE	0.06	m^2	1000062605

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB		APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPE GUIDE DETAILS	NIM	2	1842	018	DQ	3

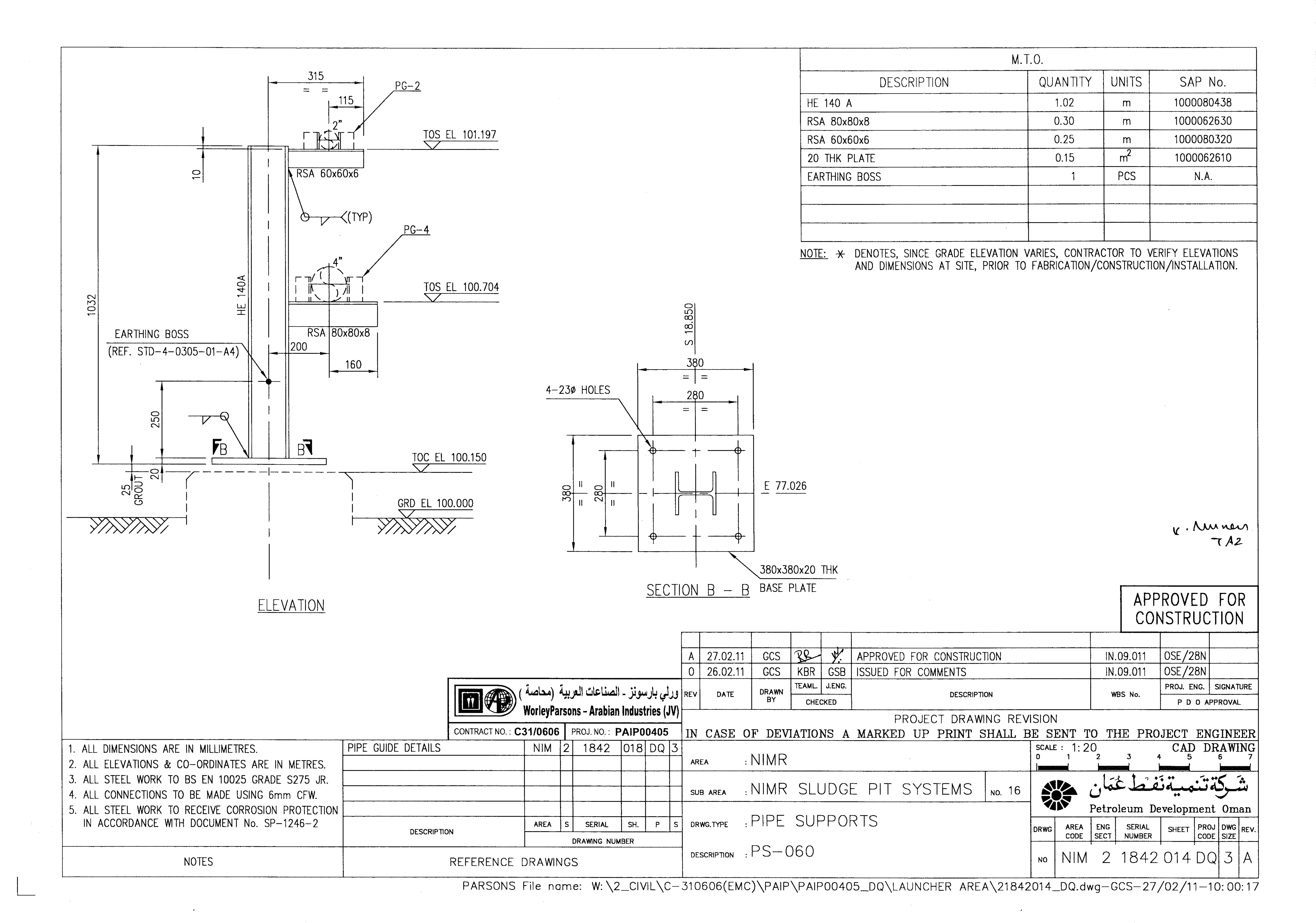
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS-059

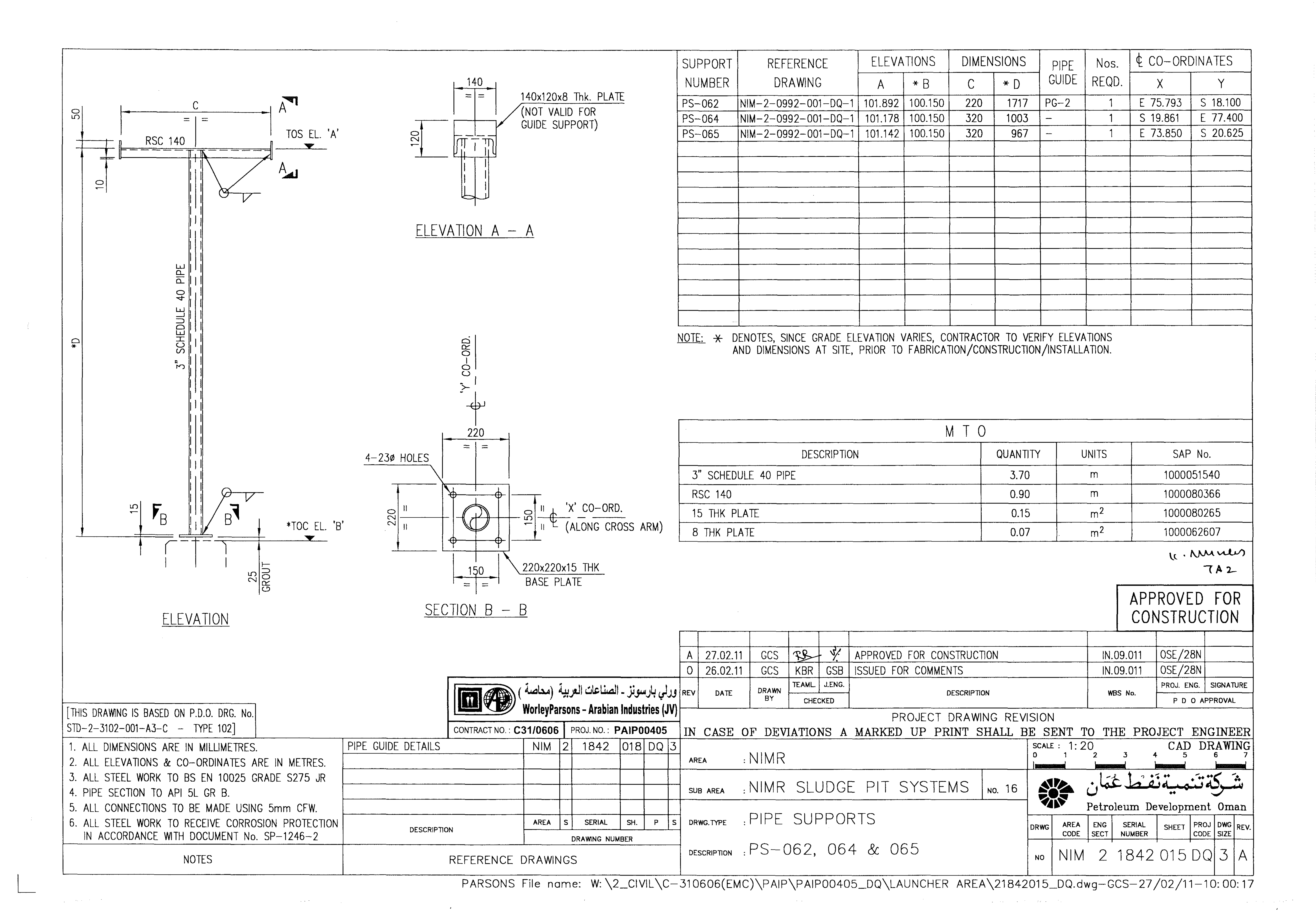
SCALE : 1:20 — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	013	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21842013_DQ.dwg-GCS-27/02/11-10:00:16


M.T.O.
DESCRIPTION | QUANTITY | UNITS | SAP No.
HE 140 A | 1.02 | m | 1000080438
RSA 80x80x8 | 0.30 | m | 1000062630
RSA 60x60x6 | 0.25 | m | 1000080320
20 THK PLATE | 0.15 | m2 | 1000062610
EARTHING BOSS | 1 | PCS | N.A.
NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.
315
115
PG-2
2"
TOS EL 101.197
10
RSA 60x60x6
(TYP)
PG-4
4"
TOS EL 100.704
HE 140A
1032
RSA 80x80x8
EARTHING BOSS
(REF. STD-4-0305-01-A4)
200
160
250
B
B
TOC EL 100.150
20
25 GROUT
GRD EL 100.000
ELEVATION
S 18.850
380
280
4-23ø HOLES
380
280
E 77.026
380x380x20 THK
BASE PLATE
SECTION B - B
APPROVED FOR CONSTRUCTION
A | 27.02.11 | GCS | | | APPROVED FOR CONSTRUCTION | IN.09.011 | OSE/28N |
0 | 26.02.11 | GCS | KBR | GSB | ISSUED FOR COMMENTS | IN.09.011 | OSE/28N |
REV | DATE | DRAWN BY | TEAML. | J.ENG. | DESCRIPTION | WBS No. | PROJ. ENG. | SIGNATURE
CHECKED
P D O APPROVAL
PROJECT DRAWING REVISION
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR.
4. ALL CONNECTIONS TO BE MADE USING 6mm CFW.
5. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2
NOTES
PIPE GUIDE DETAILS | NIM | 2 | 1842 | 018 | DQ | 3
DESCRIPTION | AREA | S | SERIAL | SH. | P | S
DRAWING NUMBER
REFERENCE DRAWINGS
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEMS
NO. 16
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS-060
SCALE : 1:20
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG | AREA CODE | ENG SECT | SERIAL NUMBER | SHEET | PROJ CODE | DWG SIZE | REV.
NO | NIM | 2 | 1842 | 014 | DQ | 3 | A
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21842014_DQ.dwg-GCS-27/02/11-10:00:17

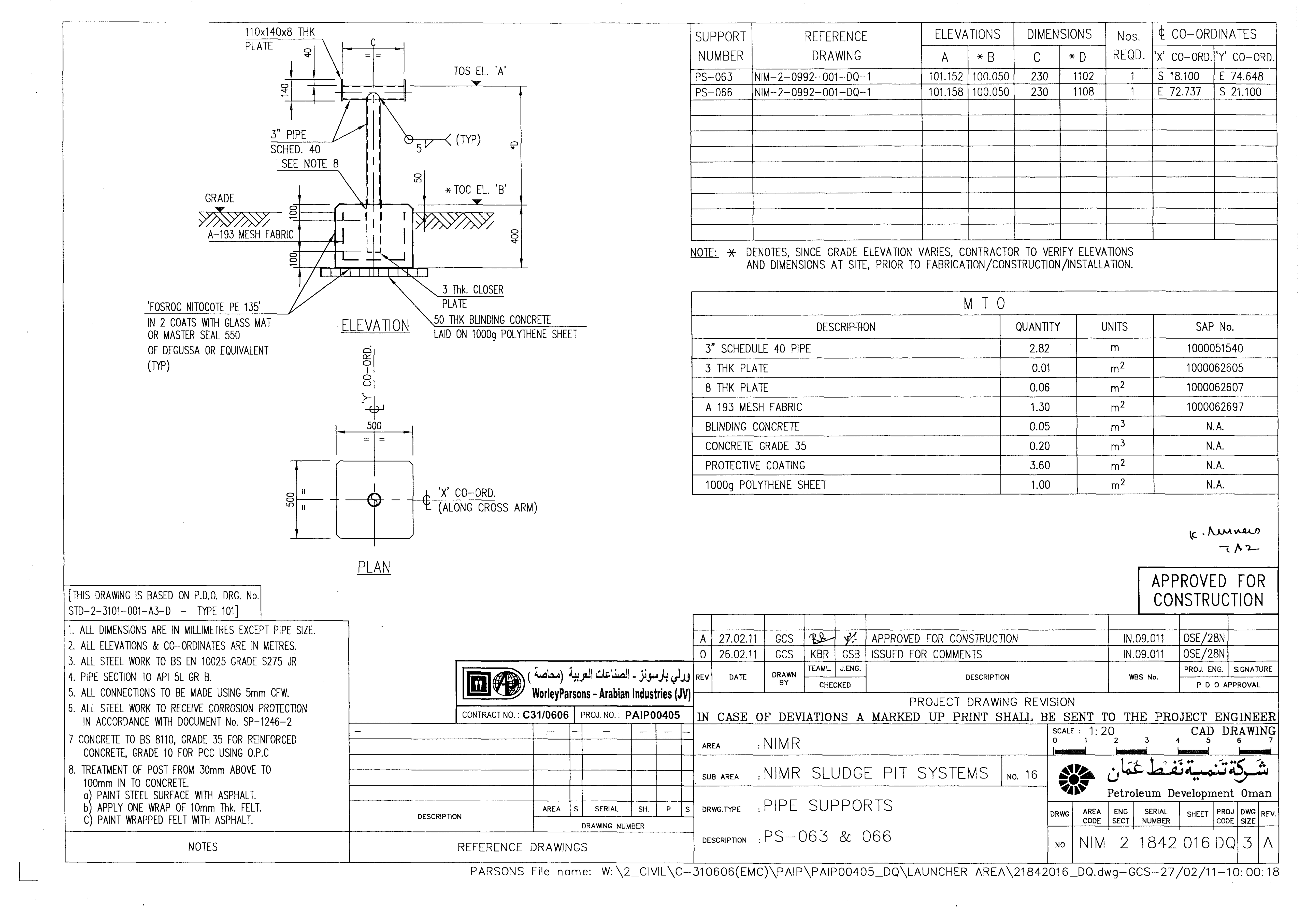


SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS *B	DIMENSIONS C	DIMENSIONS *D	PIPE GUIDE	Nos. REQD.	¢ CO-ORDINATES X	¢ CO-ORDINATES Y
PS–062	NIM–2–0992–001–DQ–1	101.892	100.150	220	1717	PG–2	1	E 75.793	S 18.100
PS–064	NIM–2–0992–001–DQ–1	101.178	100.150	320	1003	–	1	S 19.861	E 77.400
PS–065	NIM–2–0992–001–DQ–1	101.142	100.150	320	967	–	1	E 73.850	S 20.625

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	3.70	m	1000051540
RSC 140	0.90	m	1000080366
15 THK PLATE	0.15	m^2	1000080265
8 THK PLATE	0.07	m^2	1000062607

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS * B	DIMENSIONS C	DIMENSIONS * D	Nos. REQD.	¢ CO-ORDINATES 'X' CO-ORD.	¢ CO-ORDINATES 'Y' CO-ORD.
PS-063	NIM-2-0992-001-DQ-1	101.152	100.050	230	1102	1	S 18.100	E 74.648
PS-066	NIM-2-0992-001-DQ-1	101.158	100.050	230	1108	1	E 72.737	S 21.100

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	2.82	m	1000051540
3 THK PLATE	0.01	m^2	1000062605
8 THK PLATE	0.06	m^2	1000062607
A 193 MESH FABRIC	1.30	m^2	1000062697
BLINDING CONCRETE	0.05	m^3	N.A.
CONCRETE GRADE 35	0.20	m^3	N.A.
PROTECTIVE COATING	3.60	m^2	N.A.
1000g POLYTHENE SHEET	1.00	m^2	N.A.

K. Numes
TA2

APPROVED FOR CONSTRUCTION

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3101-001-A3-D - TYPE 101]

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT PIPE SIZE.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2
7 CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR PCC USING O.P.C
8. TREATMENT OF POST FROM 30mm ABOVE TO 100mm IN TO CONCRETE.
   a) PAINT STEEL SURFACE WITH ASPHALT.
   b) APPLY ONE WRAP OF 10mm Thk. FELT.
   C) PAINT WRAPPED FELT WITH ASPHALT.

NOTES

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
-	-	-	-	-	-	-

DRAWING NUMBER

REFERENCE DRAWINGS

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

REV	DATE	DRAWN BY	TEAML.	J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	BR	YV	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

CHECKED — P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE: 1:20 — CAD DRAWING

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS — NO. 16

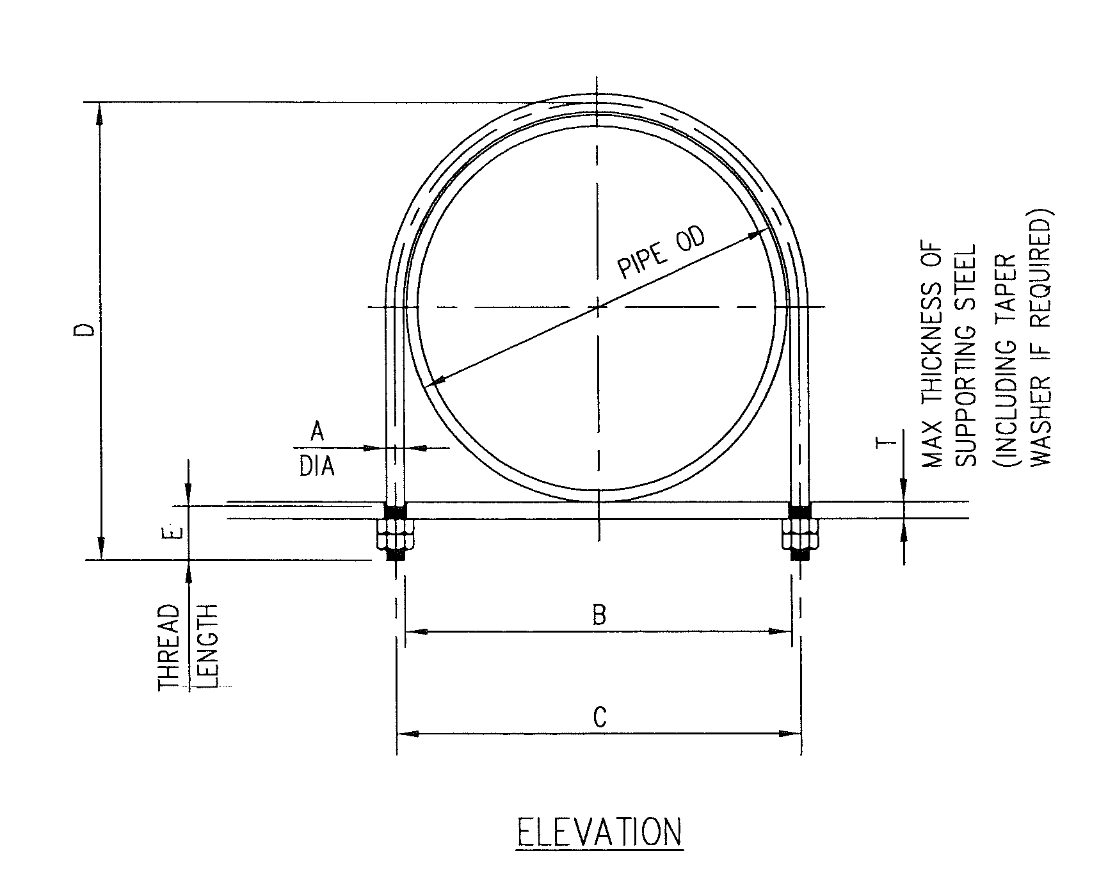
DRWG.TYPE : PIPE SUPPORTS

DESCRIPTION : PS-063 & 066

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	016	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21842016_DQ.dwg-GCS-27/02/11-10:00:18



ELEVATION

PIPE GUIDE DESIGNATION	NOMINAL PIPE SIZE INCHES	NOMINAL PIPE SIZE MM	PIPE OD	DIMENSIONS A	B	C	D	E	T	Nos. REQD.
UG-0.5	½"	15	21.3	8	22	30	50	25	10	–
UG-0.75	¾"	20	26.7	8	27	35	60	25	10	–
UG-1	1"	25	33.4	8	37	45	65	25	10	–
UG-1.5	1½"	40	48.3	10	50	60	90	35	16	–
→ UG-2	2"	50	60.3	10	65	75	100	35	16	1
UG-3	3"	80	88.9	16	89	105	150	50	19	–
UG-4	4"	100	114.3	16	119	135	175	50	19	–
UG-6	6"	150	168.3	20	170	190	235	55	19	–
UG-8	8"	200	219.1	20	225	245	295	60	19	–
UG-10	10"	250	273.0	20	280	300	350	60	22	–
UG-12	12"	300	323.9	20	330	350	400	60	22	–
UG-14	14"	350	355.6	24	361	385	440	65	22	–
UG-16	16"	400	406.4	24	411	435	490	65	22	–
UG-18	18"	450	457.0	24	461	485	540	70	22	–
UG-20	20"	500	508.0	24	516	540	590	70	22	–
UG-24	24"	600	610.0	24	616	640	700	70	22	–
UG-28	28"	700	711.2	24	711	735	800	70	22	–
UG-30	30"	750	762.0	24	766	790	850	70	22	–

MATERIAL GUIDE

BAR SIZE	BAR SAP NO No.	NUTS SIZE	NUTS SAP NO:	LOCKNUTS SIZE	LOCKNUTS SAP No.
8	1000080335	M8	1000063795	M8	1000080222
10	1000062586	M10	1000063796	M10	1000063819
16	1000062588	M16	1000063798	M16	1000063820
20	N.A.	M20	1000063799	M20	1000063821
24	N.A.	M24	1000120055	M24	1000120066

K. Ameers 7/12

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RR	W	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3817-001-A3-D – TYPE 817]

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. EACH BOLT TO BE SUPPLIED WITH 2 NUTS & 2 LOCKNUTS.
3. MATERIAL-BOLTS TO BS EN 10025 GR S275 JR NUTS TO ISO 898/11 GR 8
4. U-BOLT CORROSION PROTECTION SHALL COMPLY WITH SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S

DRAWING NUMBER

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16

DRWG.TYPE : PIPE SUPPORTS

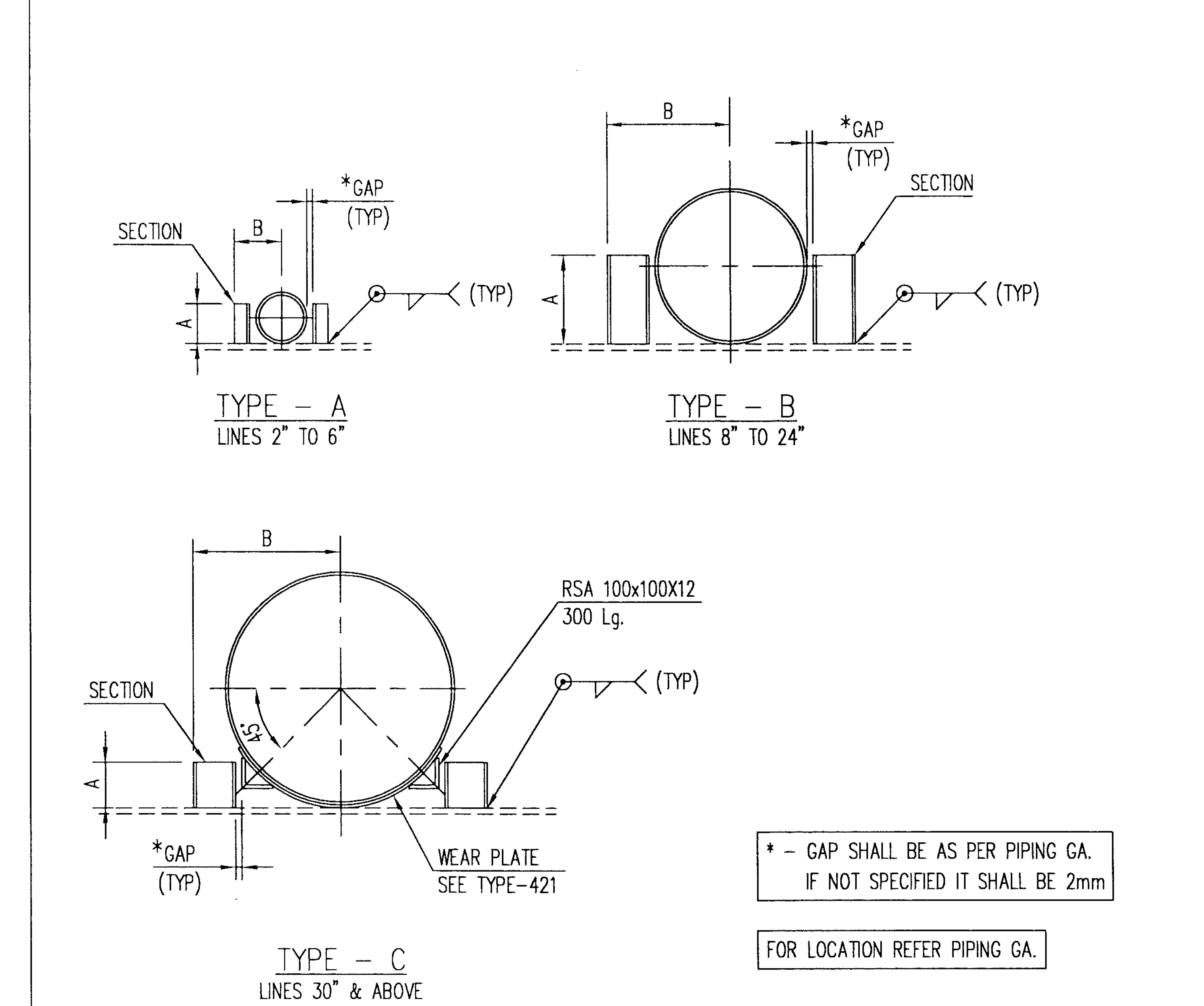
DESCRIPTION : 'U' BOLT (PIPE GRIPPED) DETAILS

SCALE : – CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	1842	017	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21842017_DQ.dwg-GCS-27/02/11-10:00:19



* – GAP SHALL BE AS PER PIPING GA.
IF NOT SPECIFIED IT SHALL BE 2mm

FOR LOCATION REFER PIPING GA.

PIPE GUIDE DESIGNATION	NOMINAL PIPE SIZE INCHES	NOMINAL PIPE SIZE MM	PIPE OD	DIMENSIONS A	DIMENSIONS B	SECTION	Nos. REQD.
PG-2	2"	50	60.3	55	82	RSA 50x50x6	4
PG-3	3"	80	88.9	80	97	RSA 50x50x6	–
PG-4	4"	100	114.3	80	110	RSA 50x50x6	2
PG-6	6"	150	168.3	110	137	RSA 50x50x6	118
PG-8	8"	200	219.1	160	212	RSC 100	–
PG-10	10"	250	273.0	160	239	RSC 100	–
PG-12	12"	300	323.9	230	264	RSC 100	–
PG-14	14"	350	355.6	230	280	RSC 100	–
PG-16	16"	400	406.4	230	306	RSC 100	–
PG-18	18"	450	457.0	260	371	RSC 140	–
PG-20	20"	500	508.0	290	396	RSC 140	–
PG-24	24"	600	610.0	340	447	RSC 140	–
PG-30	30"	750	762.0	150	464	RSC 140	–
PG-32	32"	800	813.0	150	492	RSC 140	–
PG-40	40"	1000	1016.0	200	588	RSC 160	–

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
RSC 160	–	m	1000062643
RSC 140	–	m	1000080366
RSC 100	–	m	1000145612
RSA 100x100x12	–	m	1000142036
RSA 50x50x6	26.72	m	1000062629

K. Kumar
7A2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO. : C31/0606 | PROJ. NO. : PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3604-001-A3-C – TYPE 604]

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT PIPE SIZE
2. ALL STEEL WORK EXCEPT REINFORCING PLATE TO TO BS EN 10025 GR S275 JR
3. ALL CONNECTIONS TO BE MADE USING 6mm CFW.
4. STEELWORK CORROSION PROTECTION SHALL COMPLY WITH SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S

DRAWING NUMBER

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS — NO. 16

DRWG.TYPE : PIPE SUPPORTS

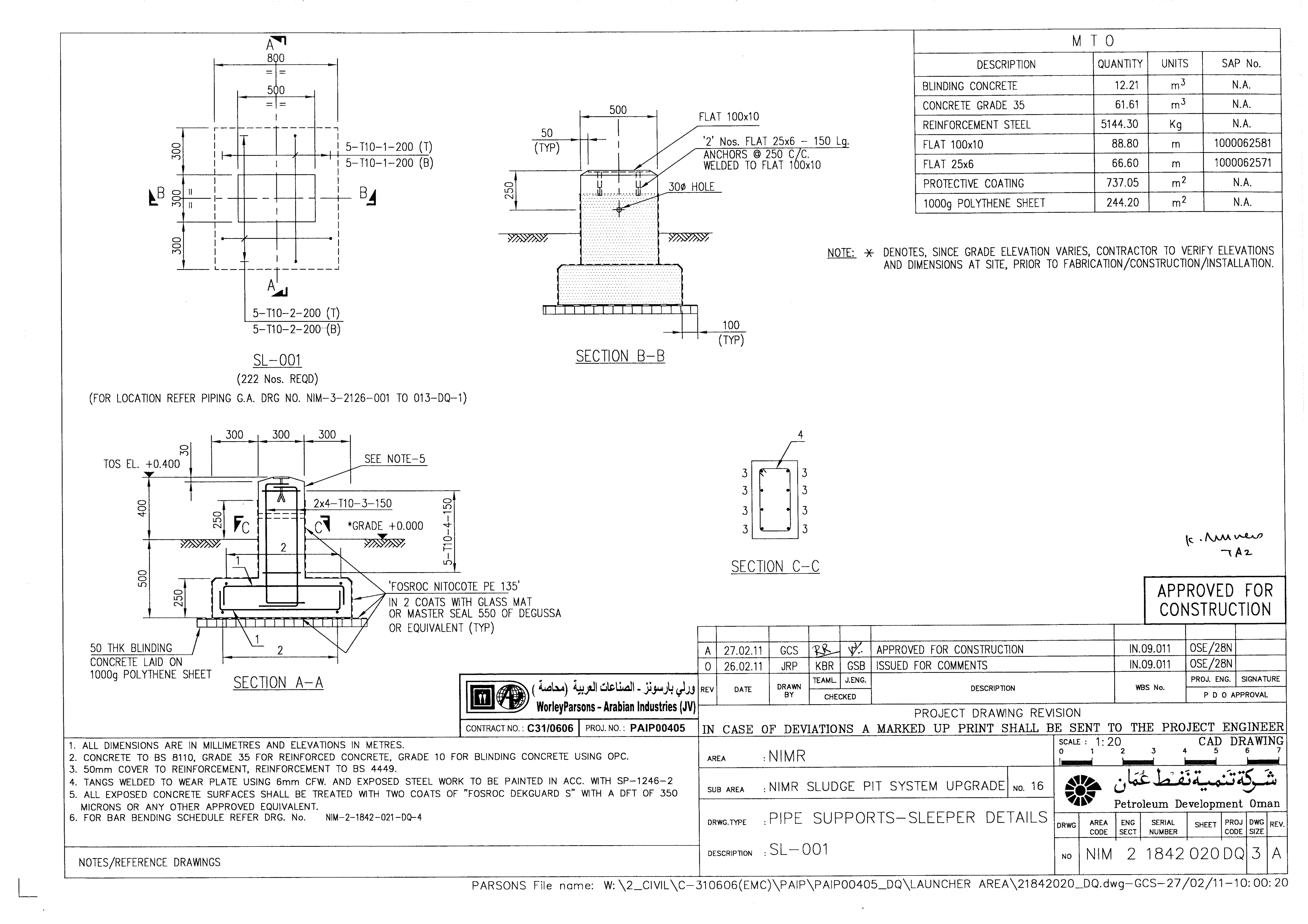
DESCRIPTION : PIPE GUIDE DETAILS

SCALE : NTS — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	018	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21842018_DQ.dwg-GCS-27/02/11-10:00:19

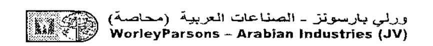


DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	12.21	m^3	N.A.
CONCRETE GRADE 35	61.61	m^3	N.A.
REINFORCEMENT STEEL	5144.30	Kg	N.A.
FLAT 100x10	88.80	m	1000062581
FLAT 25x6	66.60	m	1000062571
PROTECTIVE COATING	737.05	m^2	N.A.
1000g POLYTHENE SHEET	244.20	m^2	N.A.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RR	VJ	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

NOTES/REFERENCE DRAWINGS

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. TANGS WELDED TO WEAR PLATE USING 6mm CFW. AND EXPOSED STEEL WORK TO BE PAINTED IN ACC. WITH SP-1246-2
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-1842-021-DQ-4



BAR BENDING SCHEDULE

JOB NO.: PAIP00405
PART ID.: PRODUCTION STATION SL-001

REF. DWG NO.: NIM-2-1842-020-DQ-3

Document No.: NIM-2-1842-021-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG
Date: 27.02.11

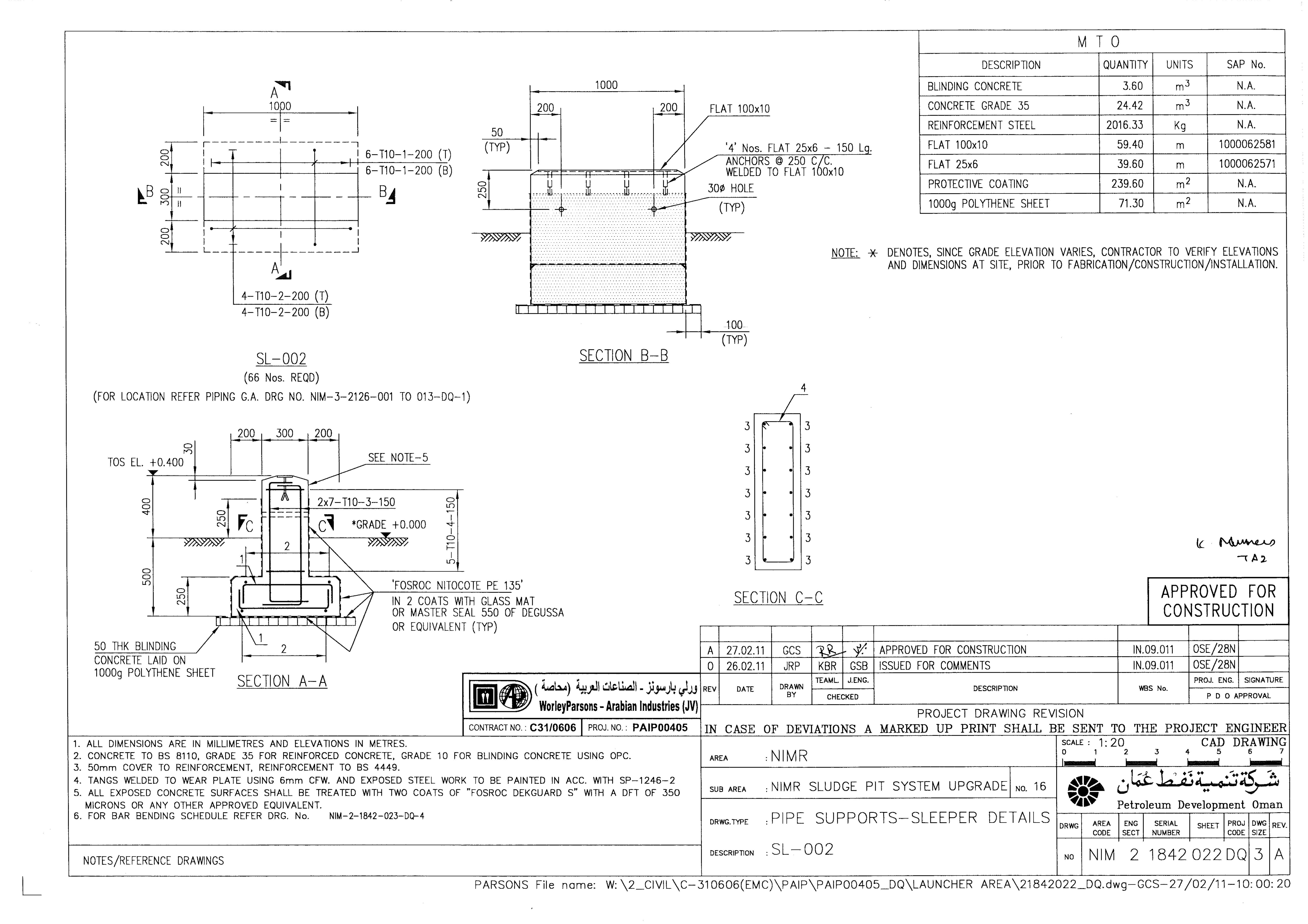
Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)			8297.25					
Weight (Kgs)			5144.30					

Total Weight (Kgs) 5144.300

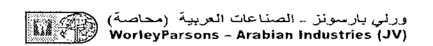
Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
SL-001	1	T10	222	10	2220	1075	21	150	800	150		
	2	T10	222	10	2220	975	21	150	700	150		
	3	T10	222	8	1776	1250	21	150	750	370		
	4	T10	222	5	1110	1375	51	200	400			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	3.60	m^3	N.A.
CONCRETE GRADE 35	24.42	m^3	N.A.
REINFORCEMENT STEEL	2016.33	Kg	N.A.
FLAT 100x10	59.40	m	1000062581
FLAT 25x6	39.60	m	1000062571
PROTECTIVE COATING	239.60	m^2	N.A.
1000g POLYTHENE SHEET	71.30	m^2	N.A.



BAR BENDING SCHEDULE

JOB NO.:	PAIP00405	Document No.:	NIM-2-1842-023-DQ-4
PART ID.:	PRODUCTION STATION SL-002	Revision No.:	A
		Prepared by:	GCS
		Checked by:	PNG
REF. DWG NO.:	NIM-2-1842-022-DQ-3	Date:	27.02.11

K. Nunnes TA2

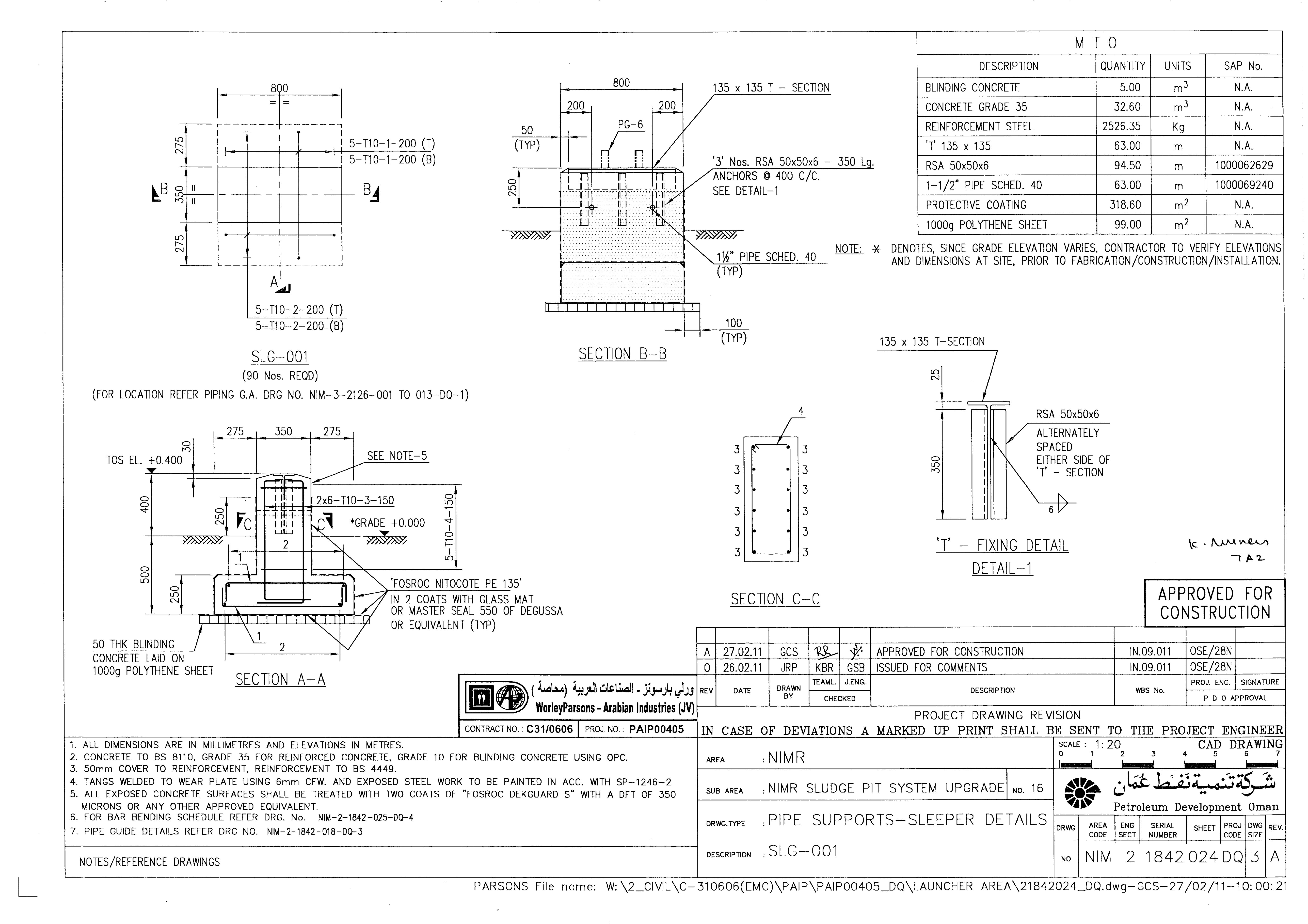
Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)			3252.15					
Weight (Kgs)			2016.34					

Total Weight (Kgs) 2016.340

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
SL-002	1	T10	66	12	792	875	21	150	600	150		
	2	T10	66	8	528	1175	21	150	900	150		
	3	T10	66	14	924	1250	21	150	750	370		
	4	T10	66	5	330	2375	51	200	900			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



M T O			
DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	5.00	m^3	N.A.
CONCRETE GRADE 35	32.60	m^3	N.A.
REINFORCEMENT STEEL	2526.35	Kg	N.A.
'T' 135 x 135	63.00	m	N.A.
RSA 50x50x6	94.50	m	1000062629
1-1/2" PIPE SCHED. 40	63.00	m	1000069240
PROTECTIVE COATING	318.60	m^2	N.A.
1000g POLYTHENE SHEET	99.00	m^2	N.A.

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	[illegible]	[illegible]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. TANGS WELDED TO WEAR PLATE USING 6mm CFW. AND EXPOSED STEEL WORK TO BE PAINTED IN ACC. WITH SP-1246-2
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-1842-025-DQ-4
7. PIPE GUIDE DETAILS REFER DRG NO. NIM-2-1842-018-DQ-3

NOTES/REFERENCE DRAWINGS

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEM UPGRADE NO. 16

DRWG.TYPE : PIPE SUPPORTS-SLEEPER DETAILS

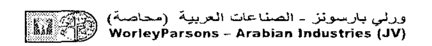
DESCRIPTION : SLG-001

SCALE : 1:20 CAD DRAWING

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	024	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21842024_DQ.dwg-GCS-27/02/11-10:00:21



BAR BENDING SCHEDULE

JOB NO.: **PAIP00405**
PART ID.: **PRODUCTION STATION**
SLG-001

REF. DWG NO.: **NIM-2-1842-024-DQ-3**

Document No.: NIM-2-1842-025-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG
Date: 27.02.11

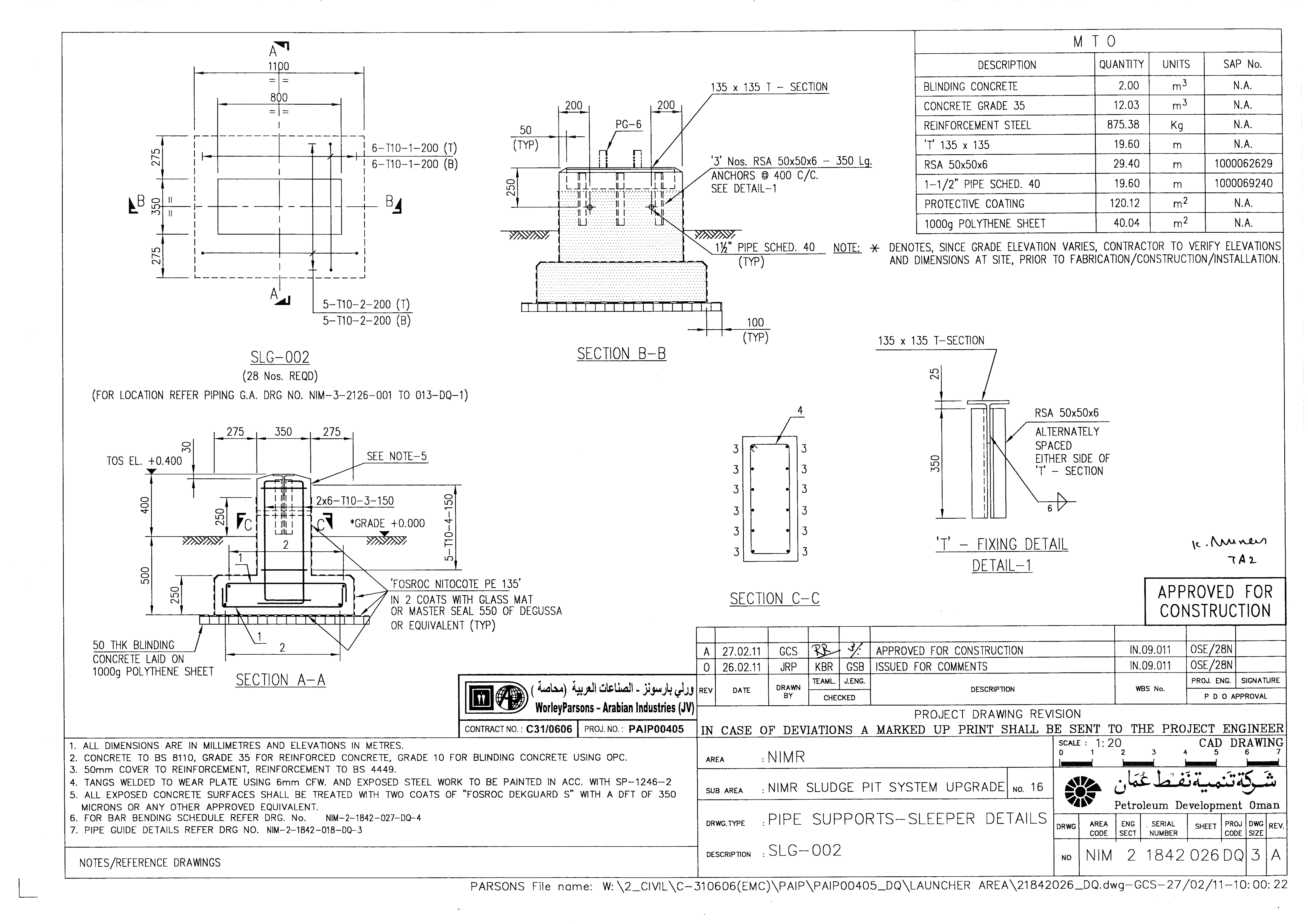
Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)			4074.75					
Weight (Kgs)			2526.35					

Total Weight (Kgs) 2526.350

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
SLG-001	1	T10	90	10	900	1075	21	150	800	150		
	2	T10	90	10	900	975	21	150	700	150		
	3	T10	90	12	1080	1200	21	100	750	370		
	4	T10	90	5	450	2075	51	250	700			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



MTO

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	2.00	m^3	N.A.
CONCRETE GRADE 35	12.03	m^3	N.A.
REINFORCEMENT STEEL	875.38	Kg	N.A.
'T' 135 x 135	19.60	m	N.A.
RSA 50x50x6	29.40	m	1000062629
1-1/2" PIPE SCHED. 40	19.60	m	1000069240
PROTECTIVE COATING	120.12	m^2	N.A.
1000g POLYTHENE SHEET	40.04	m^2	N.A.

REV	DATE	DRAWN BY	TEAML.	J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

(TEAML. and J.ENG. are under CHECKED; PROJ. ENG. and SIGNATURE are under P D O APPROVAL.)

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. TANGS WELDED TO WEAR PLATE USING 6mm CFW. AND EXPOSED STEEL WORK TO BE PAINTED IN ACC. WITH SP-1246-2
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-1842-027-DQ-4
7. PIPE GUIDE DETAILS REFER DRG NO. NIM-2-1842-018-DQ-3

NOTES/REFERENCE DRAWINGS

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEM UPGRADE NO. 16

DRWG. TYPE : PIPE SUPPORTS-SLEEPER DETAILS

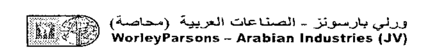
DESCRIPTION : SLG-002

SCALE : 1:20 CAD DRAWING

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Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	1842	026	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21842026_DQ.dwg-GCS-27/02/11-10:00:22



BAR BENDING SCHEDULE

JOB NO.: **PAIP00405**
PART ID.: **PRODUCTION STATION SLG-002**

REF. DWG NO.: **NIM-2-1842-026-DQ-3**

Document No.: NIM-2-1842-027-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG
Date: 27.02.11

K. Munner
TA2

Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)			1411.90					
Weight (Kgs)			875.38					

Total Weight (Kgs) 875.380

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
SLG-002	1	T10	28	12	336	1075	21	150	800	150		
	2	T10	28	10	280	1275	21	150	1000	150		
	3	T10	28	12	336	1200	21	100	750	370		
	4	T10	28	5	140	2075	51	250	700			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm

PIPE SUPPORT/ SLEEPER NUMBER	REFERENCE DRAWINGS			REMARKS
	STEELWORK DETAILS	SLEEPER/FOUNDATION DETAILS	LOCATION PLAN	
PS-001	NIM-2-1842-029-DQ-3	NIM-2-1842-062-DQ-3	NIM-2-0992-001-DQ-1	LAUNCHER AREA
PS-002	NIM-2-1842-029-DQ-3	NIM-2-1842-062-DQ-3		
PS-003	NIM-2-1842-033-DQ-3	-		
PS-004	NIM-2-1842-034-DQ-3	NIM-2-1842-035-DQ-3		
PS-005	NIM-2-1842-037-DQ-3			
PS-006	NIM-2-1842-038-DQ-3			
PS-007	NIM-2-1842-038-DQ-3			
PS-008	NIM-2-1842-039-DQ-3	NIM-2-1842-040-DQ-3		
PS-009	NIM-2-1842-038-DQ-3	NIM-2-1842-035-DQ-3		
PS-010				
PS-011				
PS-012				
PS-013	NIM-2-1842-039-DQ-3	NIM-2-1842-040-DQ-3		
PS-014	NIM-2-1842-038-DQ-3	NIM-2-1842-035-DQ-3		
PS-015	NIM-2-1842-038-DQ-3	NIM-2-1842-035-DQ-3		
PS-016	NIM-2-1842-042-DQ-3	-	NIM-3-2141-001-DQ-1	
PS-017	NIM-2-1842-042-DQ-3	-	NIM-3-2141-001-DQ-1	
PS-018	NIM-2-1842-038-DQ-3	NIM-2-1842-035-DQ-3	NIM-2-0992-001-DQ-1	
PS-019				
PS-020				
PS-021				
PS-022				
PS-023				
PS-024	NIM-2-1842-043-DQ-3	NIM-2-1842-030-DQ-3		
PS-025	NIM-2-1842-043-DQ-3			
PS-026	NIM-2-1842-032-DQ-3			
PS-027	NIM-2-1842-032-DQ-3			
PS-028	NIM-2-1842-044-DQ-3	NIM-2-1842-045-DQ-3		
PS-029	NIM-2-1842-047-DQ-3	-	NIM-3-2140-001-DQ-1	
PS-030	NIM-2-1842-048-DQ-3	NIM-2-1842-049-DQ-3	NIM-2-0992-001-DQ-1	
PS-031	NIM-2-1842-051-DQ-3	NIM-2-1842-049-DQ-3	NIM-2-0992-001-DQ-1	

PIPE SUPPORT/ SLEEPER NUMBER	REFERENCE DRAWINGS			REMARKS
	STEELWORK DETAILS	SLEEPER/FOUNDATION DETAILS	LOCATION PLAN	
PS-032	NIM-2-1842-051-DQ-3	NIM-2-1842-049-DQ-3	NIM-2-0992-001-DQ-1	
PS-033	NIM-2-1842-052-DQ-3	NIM-2-1842-049-DQ-3		
PS-034	NIM-2-1842-053-DQ-3	-		
PS-035	NIM-2-1842-053-DQ-3	-		
PS-036	NIM-2-1842-054-DQ-3	NIM-2-1842-049-DQ-3		
PS-037	NIM-2-1842-054-DQ-3	NIM-2-1842-049-DQ-3		
PS-038	NIM-2-1842-055-DQ-3	NIM-2-1842-056-DQ-3		
PS-039	NIM-2-1842-058-DQ-3	-		
PS-040	NIM-2-1842-058-DQ-3	-		
PS-041	NIM-2-1842-059-DQ-3	NIM-2-1842-030-DQ-3		
PS-042	NIM-2-1842-060-DQ-3			
PS-043	NIM-2-1842-061-DQ-3			
PS-044	NIM-2-1842-032-DQ-3			
PS-045	NIM-2-1842-047-DQ-3	-	NIM-3-2142-001-DQ-1	
PS-046	NIM-2-1842-055-DQ-3	NIM-2-1842-056-DQ-3	NIM-2-0992-001-DQ-1	
U BOLT DET.	NIM-2-1842-064-DQ-3			
PIPE CLAMP/SHOE & LINE STOP DETAILS	NIM-2-1842-065-DQ-3			
PIPE GUIDE DET.	NIM-2-1842-066-DQ-3			
LINE STOP DET.	NIM-2-1842-067-DQ-3			
PIPE SHOE DET.	NIM-2-1842-068-DQ-3			
SHOE GUIDE DET.	NIM-2-1842-069-DQ-3			
PIPE CLAMP DET.	NIM-2-1842-070-DQ-3			

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED: TEAML.	CHECKED: J.ENG.	DESCRIPTION	WBS No.	P D O APPROVAL: PROJ. ENG.	P D O APPROVAL: SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)

WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

NOTES

1. CONTRACTOR SHALL REFER PIPING PLAN ,PRIOR TO FABRICATION, INSTALLATION OF PIPE SUPPORTS

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S

DRAWING NUMBER

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS — NO. 16

DRWG.TYPE : PIPE SUPPORTS (LAUNCHER)

DESCRIPTION : INDEX SHEETS

SCALE : NTS — CAD DRAWING

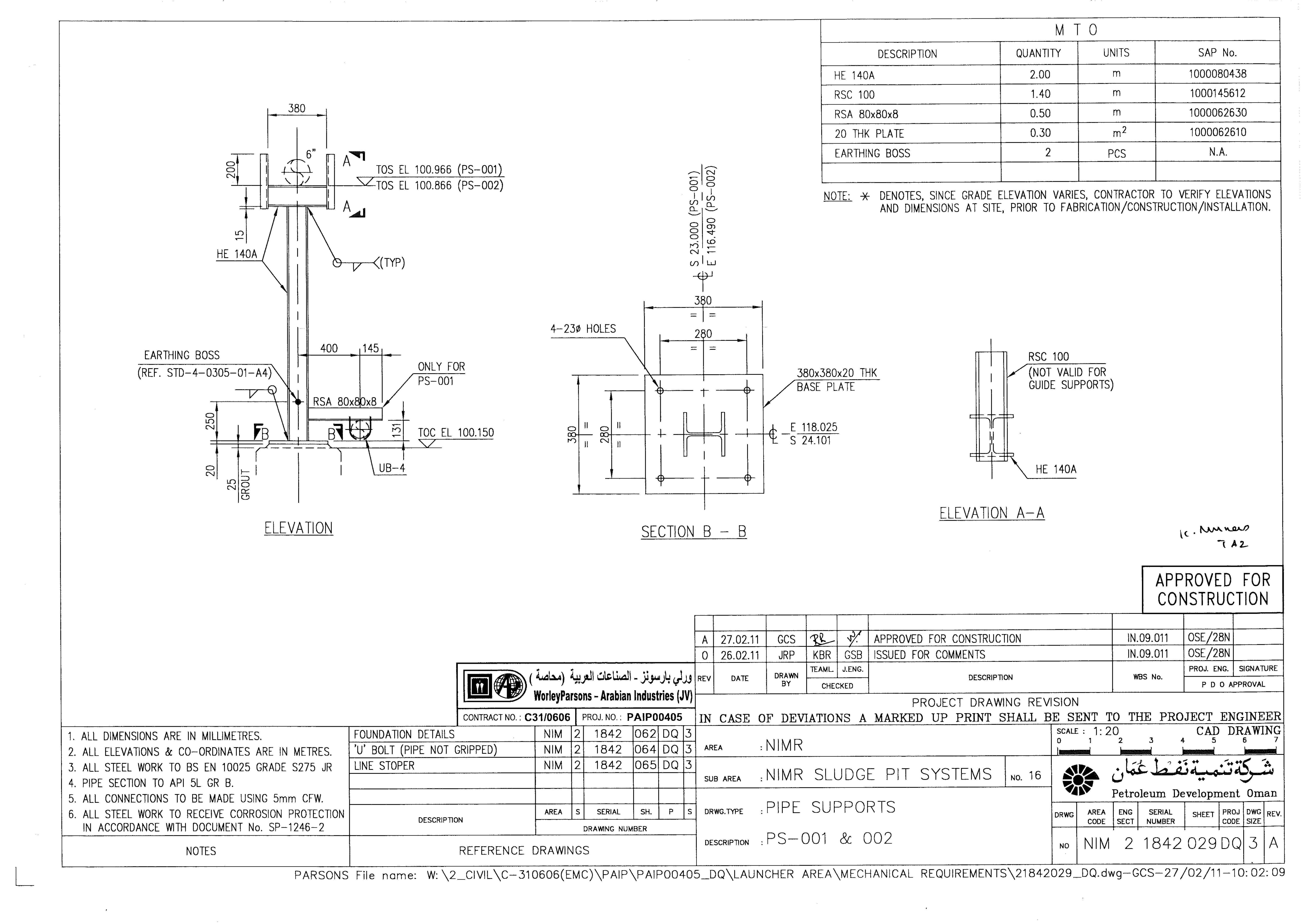
0 1 2 3 4 5 6 7

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	028	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842028_DQ.dwg-GCS-27/02/11-10:02:09



M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 140A	2.00	m	1000080438
RSC 100	1.40	m	1000145612
RSA 80x80x8	0.50	m	1000062630
20 THK PLATE	0.30	m^2	1000062610
EARTHING BOSS	2	PCS	N.A.

NOTE: ✱ DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RR	(signature)	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)

WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
FOUNDATION DETAILS	NIM	2	1842	062	DQ	3
'U' BOLT (PIPE NOT GRIPPED)	NIM	2	1842	064	DQ	3
LINE STOPER	NIM	2	1842	065	DQ	3

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16

DRWG.TYPE : PIPE SUPPORTS

DESCRIPTION : PS-001 & 002

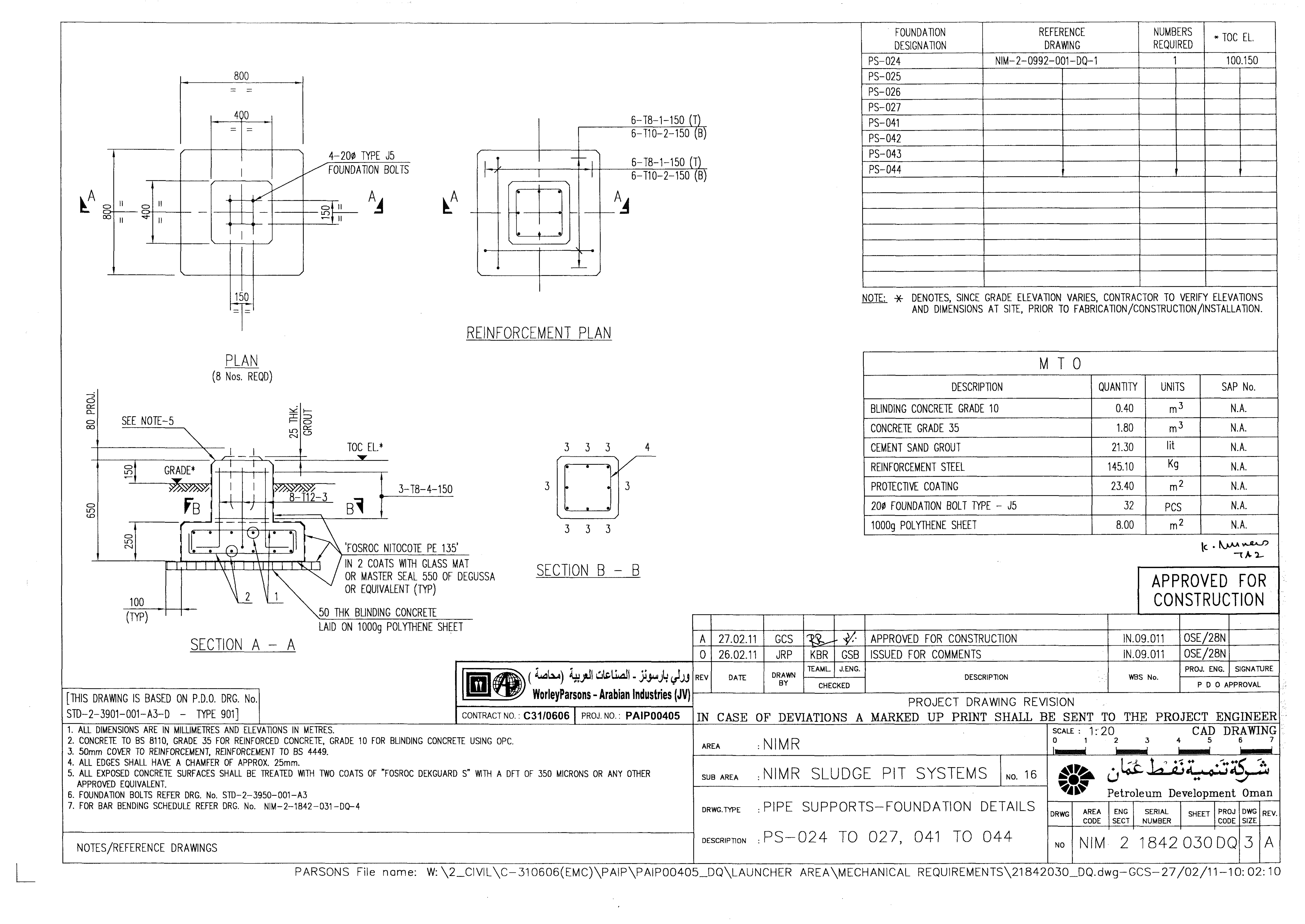
SCALE : 1:20 CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	029	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842029_DQ.dwg-GCS-27/02/11-10:02:09



FOUNDATION DESIGNATION	REFERENCE DRAWING	NUMBERS REQUIRED	* TOC EL.
PS-024	NIM-2-0992-001-DQ-1	1	100.150
PS-025			
PS-026			
PS-027			
PS-041			
PS-042			
PS-043			
PS-044			

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE GRADE 10	0.40	m^3	N.A.
CONCRETE GRADE 35	1.80	m^3	N.A.
CEMENT SAND GROUT	21.30	lit	N.A.
REINFORCEMENT STEEL	145.10	Kg	N.A.
PROTECTIVE COATING	23.40	m^2	N.A.
20ø FOUNDATION BOLT TYPE - J5	32	PCS	N.A.
1000g POLYTHENE SHEET	8.00	m^2	N.A.

K. Nurses TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB	[illegible]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3901-001-A3-D - TYPE 901]

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. ALL EDGES SHALL HAVE A CHAMFER OF APPROX. 25mm.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOUNDATION BOLTS REFER DRG. No. STD-2-3950-001-A3
7. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-1842-031-DQ-4

NOTES/REFERENCE DRAWINGS

SCALE : 1:20 CAD DRAWING

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16

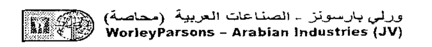
DRWG.TYPE : PIPE SUPPORTS-FOUNDATION DETAILS

DESCRIPTION : PS-024 TO 027, 041 TO 044

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	030	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842030_DQ.dwg-GCS-27/02/11-10:02:10



BAR BENDING SCHEDULE

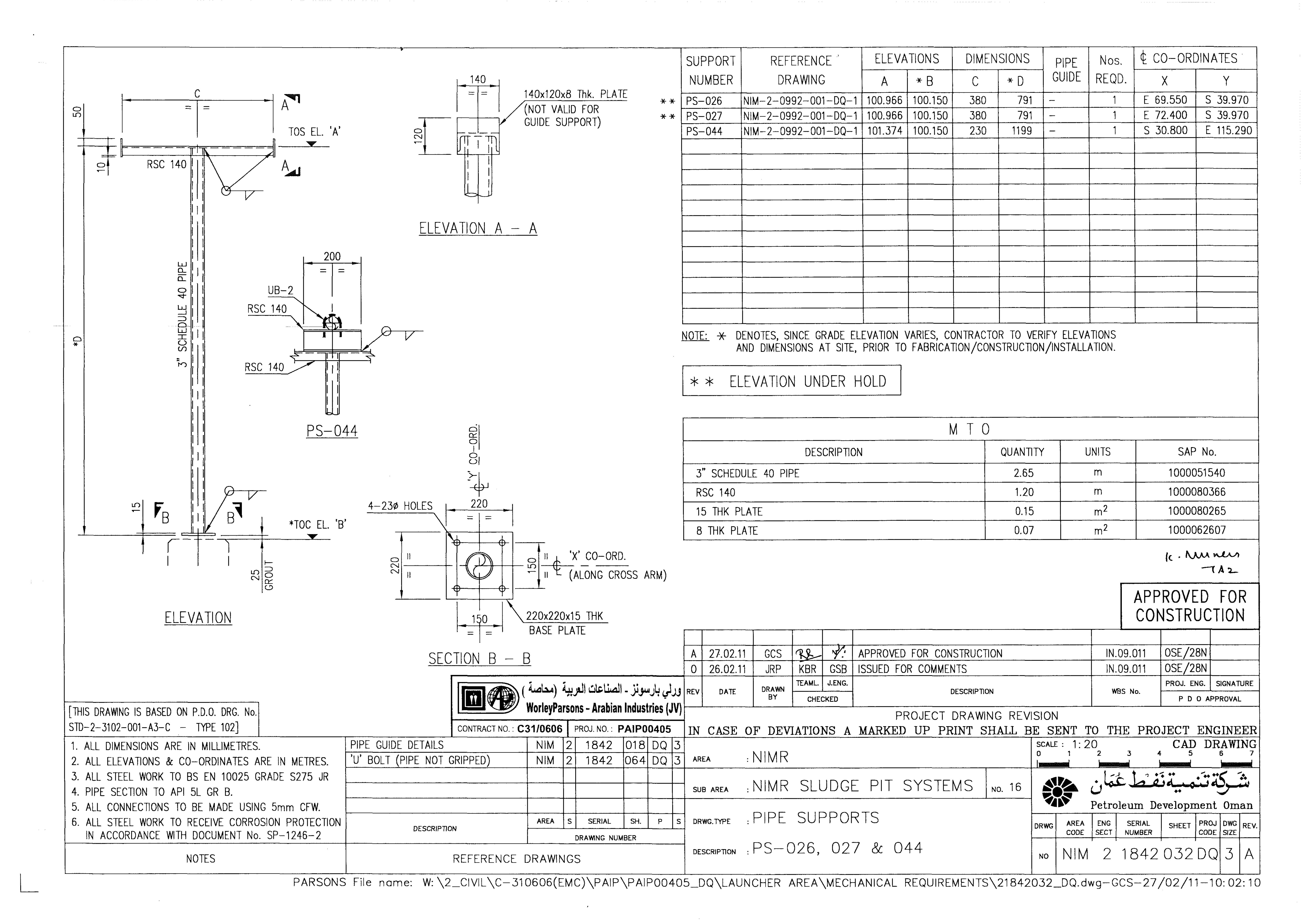
JOB NO.:	PAIP00405		**Document No.:**	NIM-2-1842-031-DQ-4
PART ID.:	NIMR SLUDGE PIT SYSTEM UPGRADE		**Revision No.:**	A
	PS-024 TO 027 & 041 TO 044		Prepared by:	JRP
			Checked by:	PNG
REF. DWG NO.:	NIM-2-1842-030-DQ-3		Date:	27.02.11

Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		121.80	88.80	46.40				
Weight (Kgs)		48.72	55.06	41.30				
Total Weight (Kgs)								145.080

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PS- 024 TO 027	1	T8	8	12	96	925	21	125	700	125		
& 041 TO 044	2	T10	8	12	96	925	21	125	700	125		
	3	T12	8	8	64	725	11	200	530			
	4	T8	8	3	24	1375	51	300	300			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS * B	DIMENSIONS C	DIMENSIONS * D	PIPE GUIDE	Nos. REQD.	℄ CO-ORDINATES X	℄ CO-ORDINATES Y
** PS-026	NIM-2-0992-001-DQ-1	100.966	100.150	380	791	–	1	E 69.550	S 39.970
** PS-027	NIM-2-0992-001-DQ-1	100.966	100.150	380	791	–	1	E 72.400	S 39.970
PS-044	NIM-2-0992-001-DQ-1	101.374	100.150	230	1199	–	1	S 30.800	E 115.290

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

** ELEVATION UNDER HOLD

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	2.65	m	1000051540
RSC 140	1.20	m	1000080366
15 THK PLATE	0.15	m^2	1000080265
8 THK PLATE	0.07	m^2	1000062607

K. Muners TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	P D O APPROVAL PROJ. ENG.	P D O APPROVAL SIGNATURE
A	27.02.11	GCS	RB	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3102-001-A3-C – TYPE 102]

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPE GUIDE DETAILS	NIM	2	1842	018	DQ	3
'U' BOLT (PIPE NOT GRIPPED)	NIM	2	1842	064	DQ	3

DRAWING NUMBER

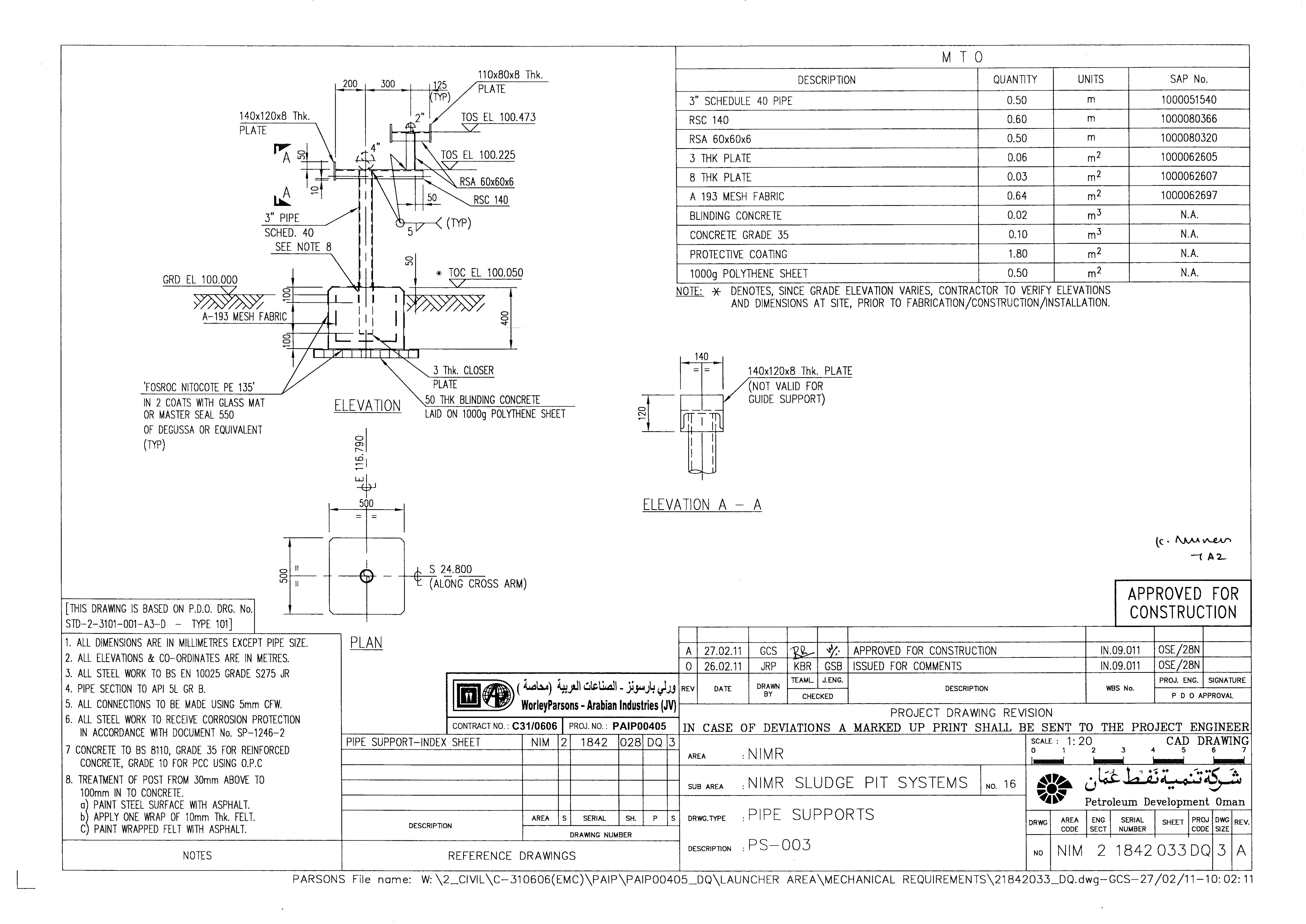
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS-026, 027 & 044

SCALE : 1:20 CAD DRAWING

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	032	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842032_DQ.dwg-GCS-27/02/11-10:02:10



M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	0.50	m	1000051540
RSC 140	0.60	m	1000080366
RSA 60x60x6	0.50	m	1000080320
3 THK PLATE	0.06	m^2	1000062605
8 THK PLATE	0.03	m^2	1000062607
A 193 MESH FABRIC	0.64	m^2	1000062697
BLINDING CONCRETE	0.02	m^3	N.A.
CONCRETE GRADE 35	0.10	m^3	N.A.
PROTECTIVE COATING	1.80	m^2	N.A.
1000g POLYTHENE SHEET	0.50	m^2	N.A.

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

(c. Muneer
TA2

APPROVED FOR CONSTRUCTION

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3101-001-A3-D – TYPE 101]

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT PIPE SIZE.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2
7. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR PCC USING O.P.C
8. TREATMENT OF POST FROM 30mm ABOVE TO 100mm IN TO CONCRETE.
   a) PAINT STEEL SURFACE WITH ASPHALT.
   b) APPLY ONE WRAP OF 10mm Thk. FELT.
   c) PAINT WRAPPED FELT WITH ASPHALT.

NOTES

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPE SUPPORT-INDEX SHEET	NIM	2	1842	028	DQ	3

DRAWING NUMBER

REFERENCE DRAWINGS

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE : 1:20 — CAD DRAWING

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS — NO. 16

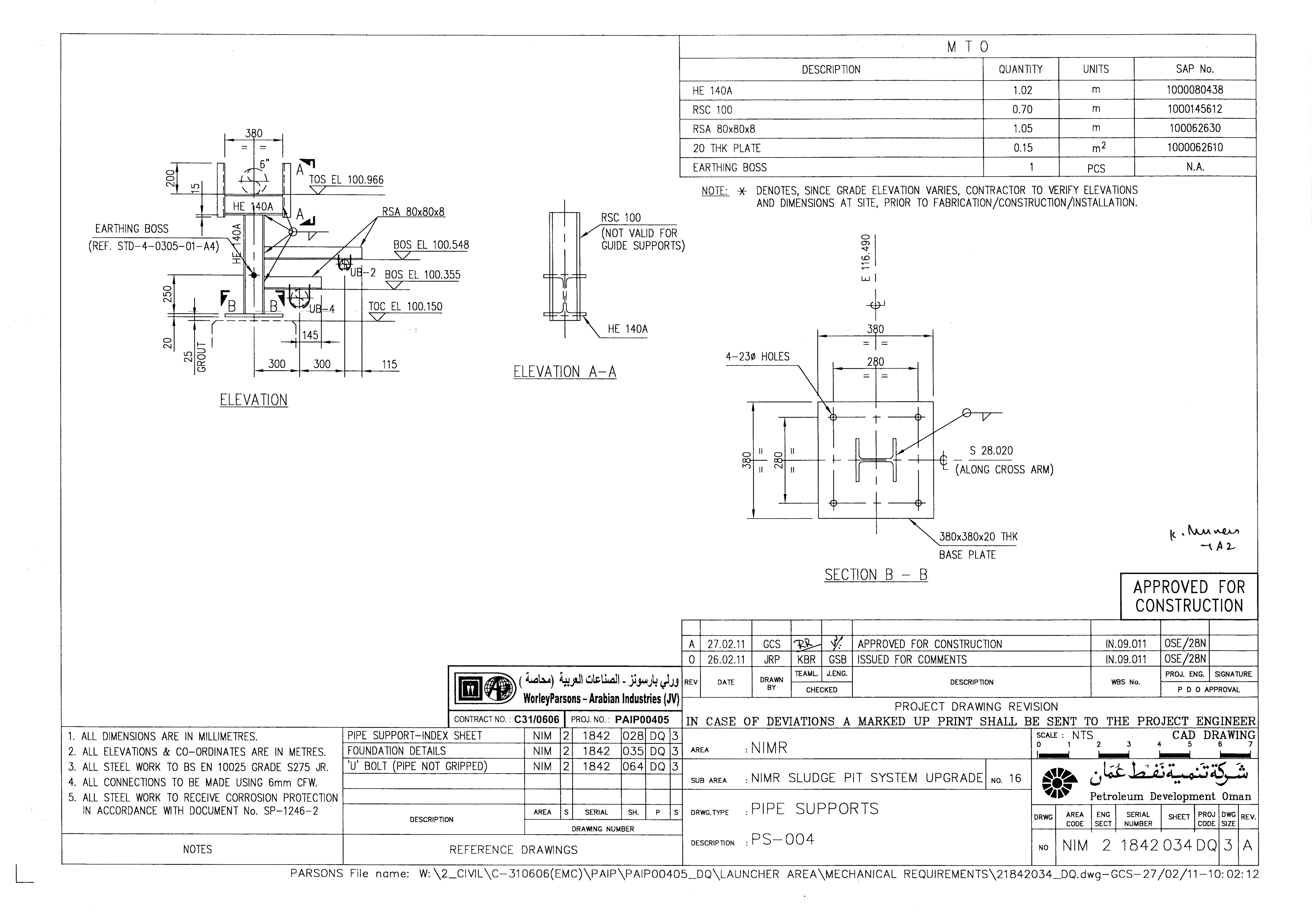
DRWG.TYPE : PIPE SUPPORTS

DESCRIPTION : PS–003

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	033	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842033_DQ.dwg-GCS-27/02/11-10:02:11



M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 140A	1.02	m	1000080438
RSC 100	0.70	m	1000145612
RSA 80x80x8	1.05	m	100062630
20 THK PLATE	0.15	m^2	1000062610
EARTHING BOSS	1	PCS	N.A.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	P D O APPROVAL PROJ. ENG.	P D O APPROVAL SIGNATURE
A	27.02.11	GCS	RR	[illegible]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

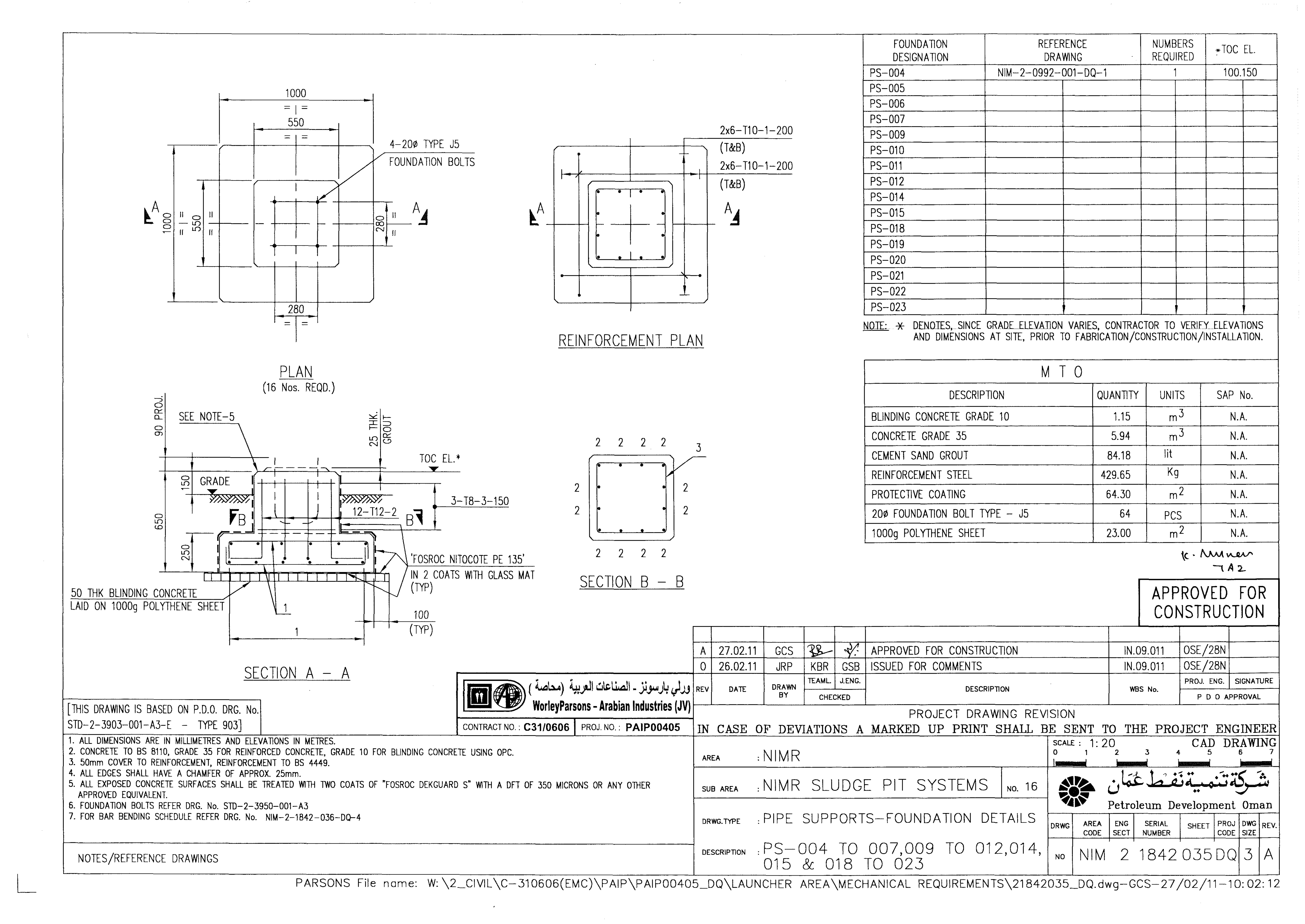
NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR.
4. ALL CONNECTIONS TO BE MADE USING 6mm CFW.
5. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPE SUPPORT-INDEX SHEET	NIM	2	1842	028	DQ	3
FOUNDATION DETAILS	NIM	2	1842	035	DQ	3
'U' BOLT (PIPE NOT GRIPPED)	NIM	2	1842	064	DQ	3

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	034	DQ	3	A



FOUNDATION DESIGNATION	REFERENCE DRAWING	NUMBERS REQUIRED	*TOC EL.
PS-004	NIM-2-0992-001-DQ-1	1	100.150
PS-005			
PS-006			
PS-007			
PS-009			
PS-010			
PS-011			
PS-012			
PS-014			
PS-015			
PS-018			
PS-019			
PS-020			
PS-021			
PS-022			
PS-023			

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE GRADE 10	1.15	m^3	N.A.
CONCRETE GRADE 35	5.94	m^3	N.A.
CEMENT SAND GROUT	84.18	lit	N.A.
REINFORCEMENT STEEL	429.65	Kg	N.A.
PROTECTIVE COATING	64.30	m^2	N.A.
20ø FOUNDATION BOLT TYPE - J5	64	PCS	N.A.
1000g POLYTHENE SHEET	23.00	m^2	N.A.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	27.02.11	GCS	BB		APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3903-001-A3-E - TYPE 903]

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. ALL EDGES SHALL HAVE A CHAMFER OF APPROX. 25mm.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOUNDATION BOLTS REFER DRG. No. STD-2-3950-001-A3
7. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-1842-036-DQ-4

NOTES/REFERENCE DRAWINGS

SCALE : 1:20 CAD DRAWING

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16

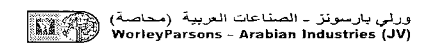
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Petroleum Development Oman

DRWG.TYPE : PIPE SUPPORTS-FOUNDATION DETAILS

DESCRIPTION : PS-004 TO 007,009 TO 012,014, 015 & 018 TO 023

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	035	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842035_DQ.dwg-GCS-27/02/11-10:02:12



BAR BENDING SCHEDULE

JOB NO.: **PAIP00405**
PART ID.: **NIMR SLUDGE PIT SYSTEM UPGRADE**
PS-004 TO 007,009 TO 012,014,
015 & 018 TO 023
REF. DWG NO.: **NIM-2-1842-035-DQ-3**

Document No.: NIM-2-1842-036-DQ-4
Revision No.: A
Prepared by: JRP
Checked by: PNG
Date: 27.02.11

K. Munn
TA2

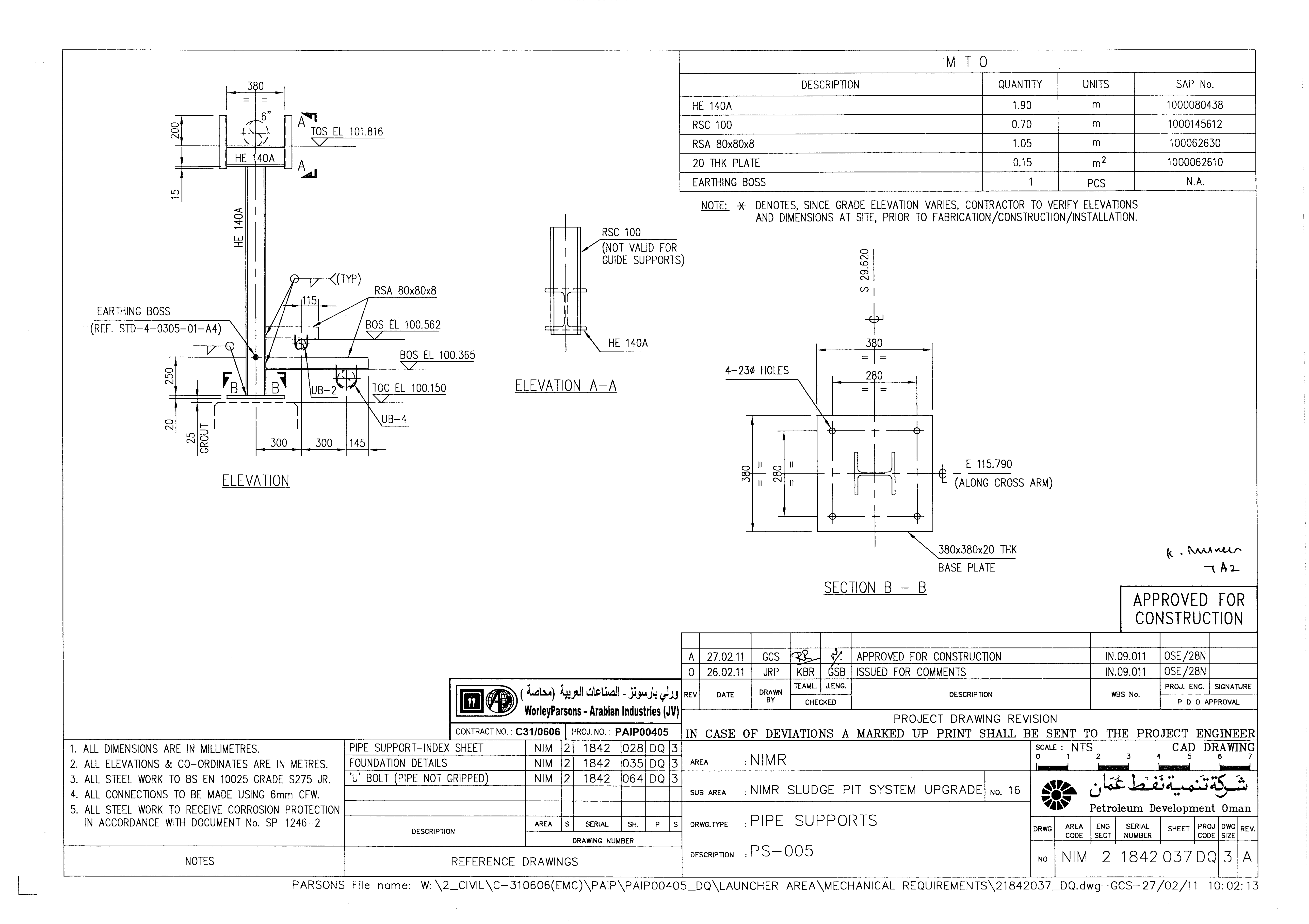
Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		94.80	432.00	139.20				
Weight (Kgs)		37.92	267.84	123.89				

Total Weight (Kgs) 429.650

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PS-004 TO 007,009	1	T10	16	24	384	1125	21	125	900	125		
TO 012,014,015	2	T12	16	12	192	725	11	200	530			
& 018 TO 023	3	T8	16	3	48	1975	51	450	450			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 140A	1.90	m	1000080438
RSC 100	0.70	m	1000145612
RSA 80x80x8	1.05	m	100062630
20 THK PLATE	0.15	m^2	1000062610
EARTHING BOSS	1	PCS	N.A.

NOTE: ✳ DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	P D O APPROVAL PROJ. ENG.	P D O APPROVAL SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR.
4. ALL CONNECTIONS TO BE MADE USING 6mm CFW.
5. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPE SUPPORT-INDEX SHEET	NIM	2	1842	028	DQ	3
FOUNDATION DETAILS	NIM	2	1842	035	DQ	3
'U' BOLT (PIPE NOT GRIPPED)	NIM	2	1842	064	DQ	3

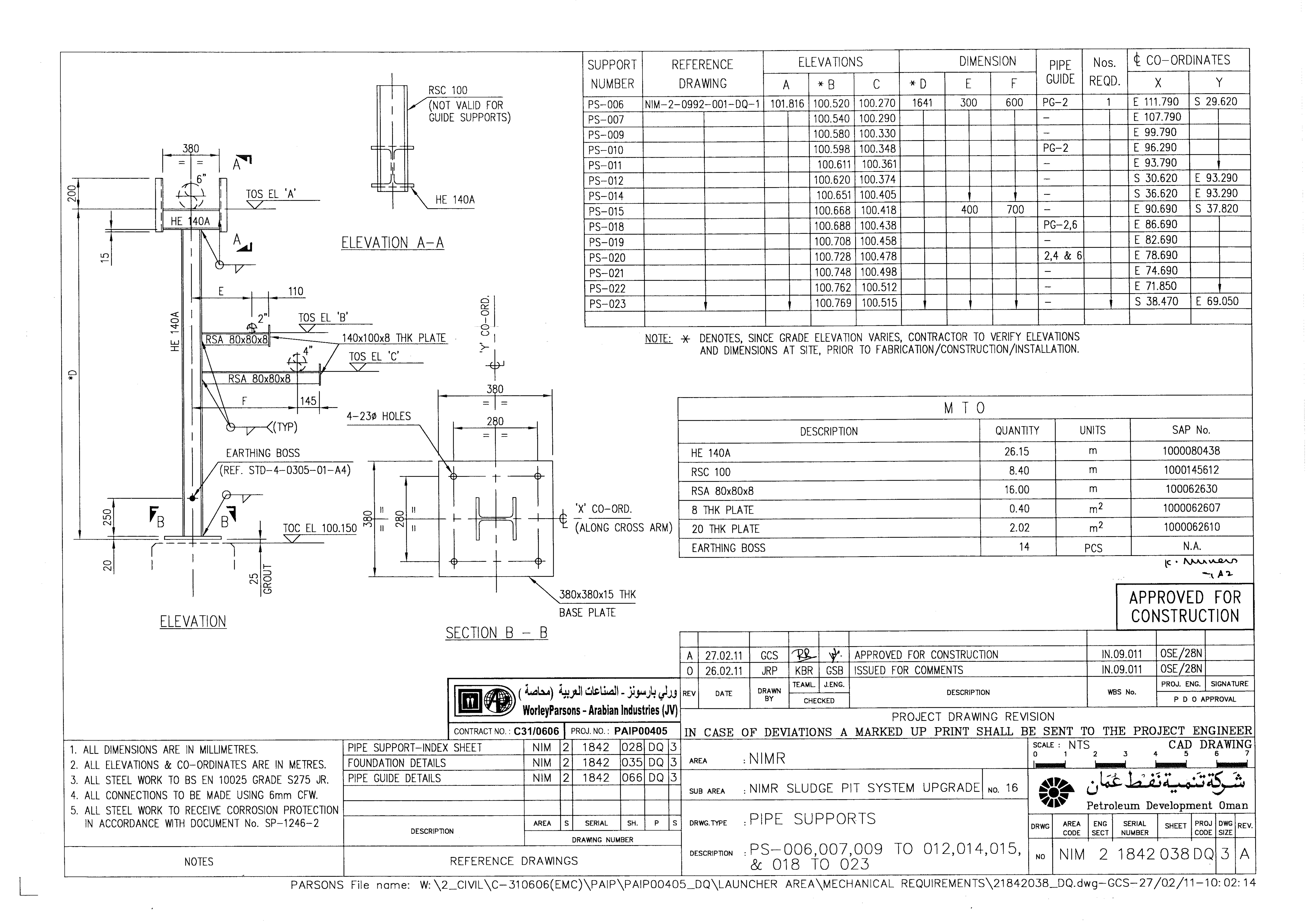
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEM UPGRADE NO. 16
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS-005

SCALE : NTS — CAD DRAWING

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Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	1842	037	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842037_DQ.dwg-GCS-27/02/11-10:02:13



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS *B	ELEVATIONS C	DIMENSION *D	DIMENSION E	DIMENSION F	PIPE GUIDE	Nos. REQD.	℄ CO-ORDINATES X	℄ CO-ORDINATES Y
PS-006	NIM-2-0992-001-DQ-1	101.816	100.520	100.270	1641	300	600	PG-2	1	E 111.790	S 29.620
PS-007			100.540	100.290				–		E 107.790	
PS-009			100.580	100.330				–		E 99.790	
PS-010			100.598	100.348				PG-2		E 96.290	
PS-011			100.611	100.361				–		E 93.790	
PS-012			100.620	100.374				–		S 30.620	E 93.290
PS-014			100.651	100.405				–		S 36.620	E 93.290
PS-015			100.668	100.418		400	700	–		E 90.690	S 37.820
PS-018			100.688	100.438				PG-2,6		E 86.690	
PS-019			100.708	100.458				–		E 82.690	
PS-020			100.728	100.478				2,4 & 6		E 78.690	
PS-021			100.748	100.498				–		E 74.690	
PS-022			100.762	100.512				–		E 71.850	
PS-023			100.769	100.515				–		S 38.470	E 69.050

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 140A	26.15	m	1000080438
RSC 100	8.40	m	1000145612
RSA 80x80x8	16.00	m	100062630
8 THK PLATE	0.40	m^2	1000062607
20 THK PLATE	2.02	m^2	1000062610
EARTHING BOSS	14	PCS	N.A.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR.
4. ALL CONNECTIONS TO BE MADE USING 6mm CFW.
5. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPE SUPPORT-INDEX SHEET	NIM	2	1842	028	DQ	3
FOUNDATION DETAILS	NIM	2	1842	035	DQ	3
PIPE GUIDE DETAILS	NIM	2	1842	066	DQ	3

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEM UPGRADE NO. 16

DRWG. TYPE : PIPE SUPPORTS

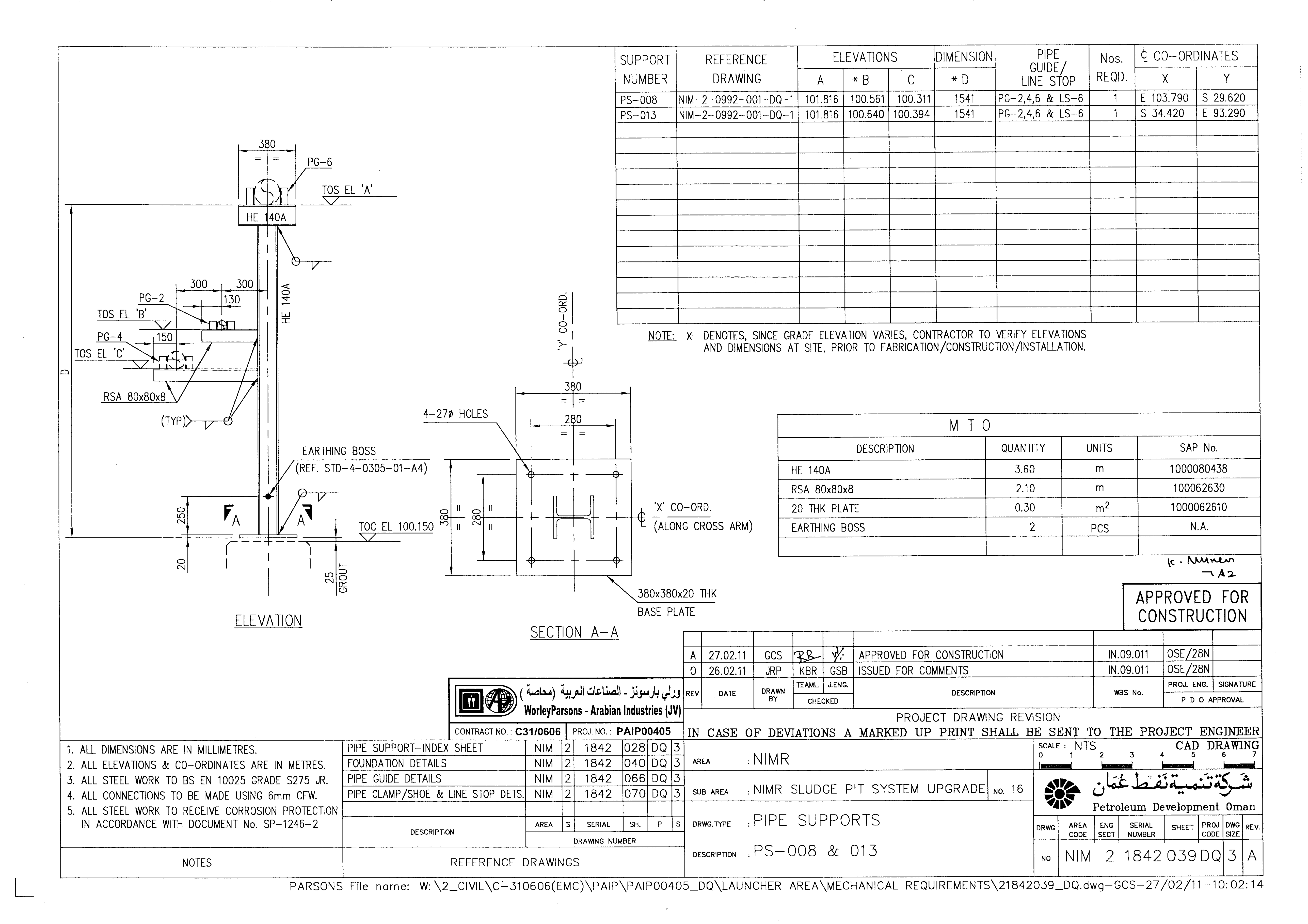
DESCRIPTION : PS-006,007,009 TO 012,014,015, & 018 TO 023

SCALE : NTS — CAD DRAWING

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Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	038	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842038_DQ.dwg-GCS-27/02/11-10:02:14



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS *B	ELEVATIONS C	DIMENSION *D	PIPE GUIDE/ LINE STOP	Nos. REQD.	¢ CO-ORDINATES X	¢ CO-ORDINATES Y
PS-008	NIM-2-0992-001-DQ-1	101.816	100.561	100.311	1541	PG-2,4,6 & LS-6	1	E 103.790	S 29.620
PS-013	NIM-2-0992-001-DQ-1	101.816	100.640	100.394	1541	PG-2,4,6 & LS-6	1	S 34.420	E 93.290

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O			
DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 140A	3.60	m	1000080438
RSA 80x80x8	2.10	m	100062630
20 THK PLATE	0.30	m^2	1000062610
EARTHING BOSS	2	PCS	N.A.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR.
4. ALL CONNECTIONS TO BE MADE USING 6mm CFW.
5. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

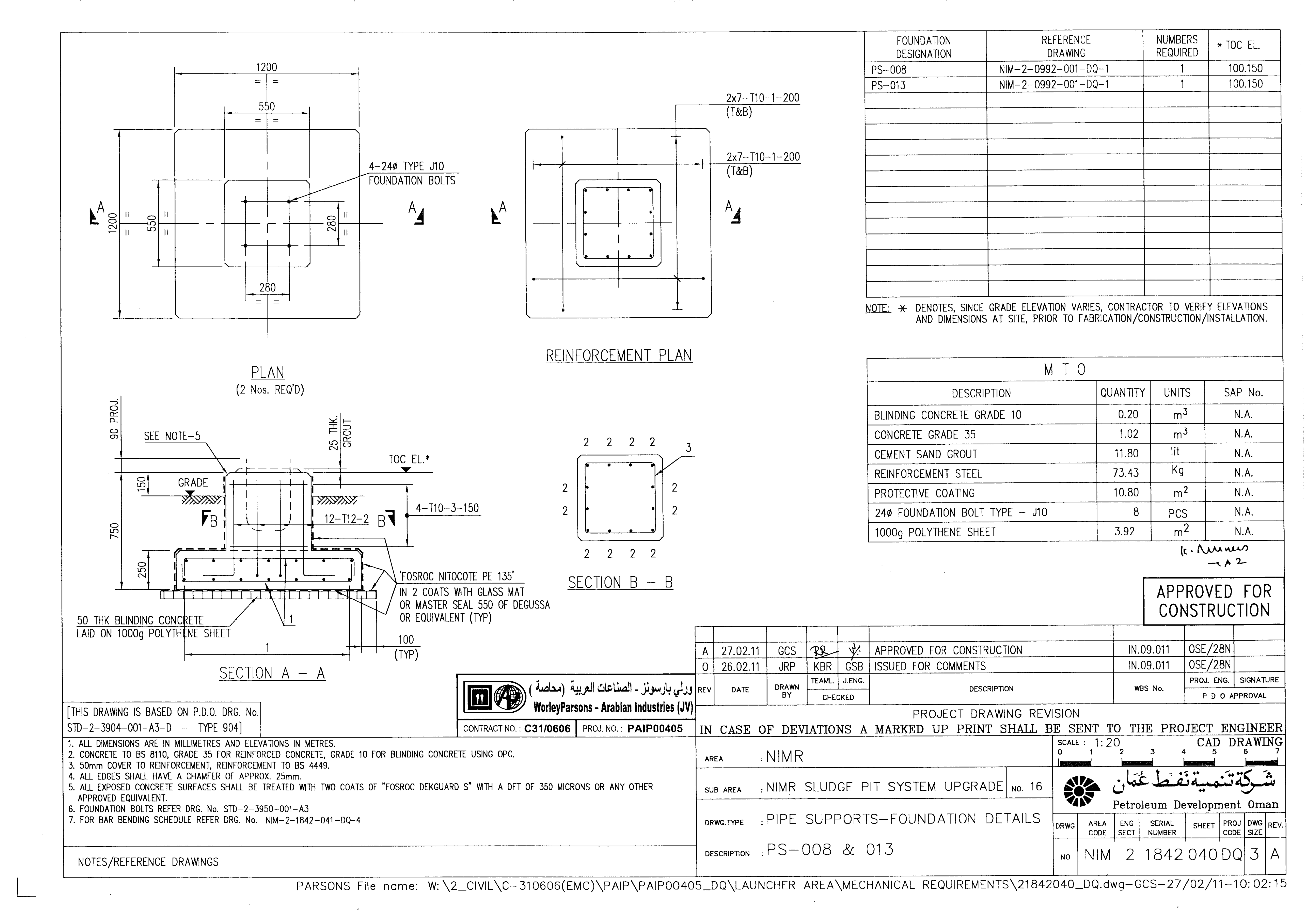
DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPE SUPPORT-INDEX SHEET	NIM	2	1842	028	DQ	3
FOUNDATION DETAILS	NIM	2	1842	040	DQ	3
PIPE GUIDE DETAILS	NIM	2	1842	066	DQ	3
PIPE CLAMP/SHOE & LINE STOP DETS.	NIM	2	1842	070	DQ	3

DRAWING NUMBER

AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEM UPGRADE NO. 16
DRWG. TYPE : PIPE SUPPORTS
DESCRIPTION : PS-008 & 013

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	1842	039	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842039_DQ.dwg-GCS-27/02/11-10:02:14



FOUNDATION DESIGNATION	REFERENCE DRAWING	NUMBERS REQUIRED	* TOC EL.
PS-008	NIM-2-0992-001-DQ-1	1	100.150
PS-013	NIM-2-0992-001-DQ-1	1	100.150

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE GRADE 10	0.20	m^3	N.A.
CONCRETE GRADE 35	1.02	m^3	N.A.
CEMENT SAND GROUT	11.80	lit	N.A.
REINFORCEMENT STEEL	73.43	Kg	N.A.
PROTECTIVE COATING	10.80	m^2	N.A.
24φ FOUNDATION BOLT TYPE - J10	8	PCS	N.A.
1000g POLYTHENE SHEET	3.92	m^2	N.A.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3904-001-A3-D - TYPE 904]

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. ALL EDGES SHALL HAVE A CHAMFER OF APPROX. 25mm.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOUNDATION BOLTS REFER DRG. No. STD-2-3950-001-A3
7. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-1842-041-DQ-4

NOTES/REFERENCE DRAWINGS

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEM UPGRADE NO. 16

DRWG.TYPE : PIPE SUPPORTS-FOUNDATION DETAILS

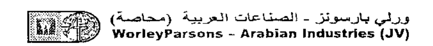
DESCRIPTION : PS-008 & 013

SCALE : 1:20 CAD DRAWING

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DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	040	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842040_DQ.dwg-GCS-27/02/11-10:02:15



BAR BENDING SCHEDULE

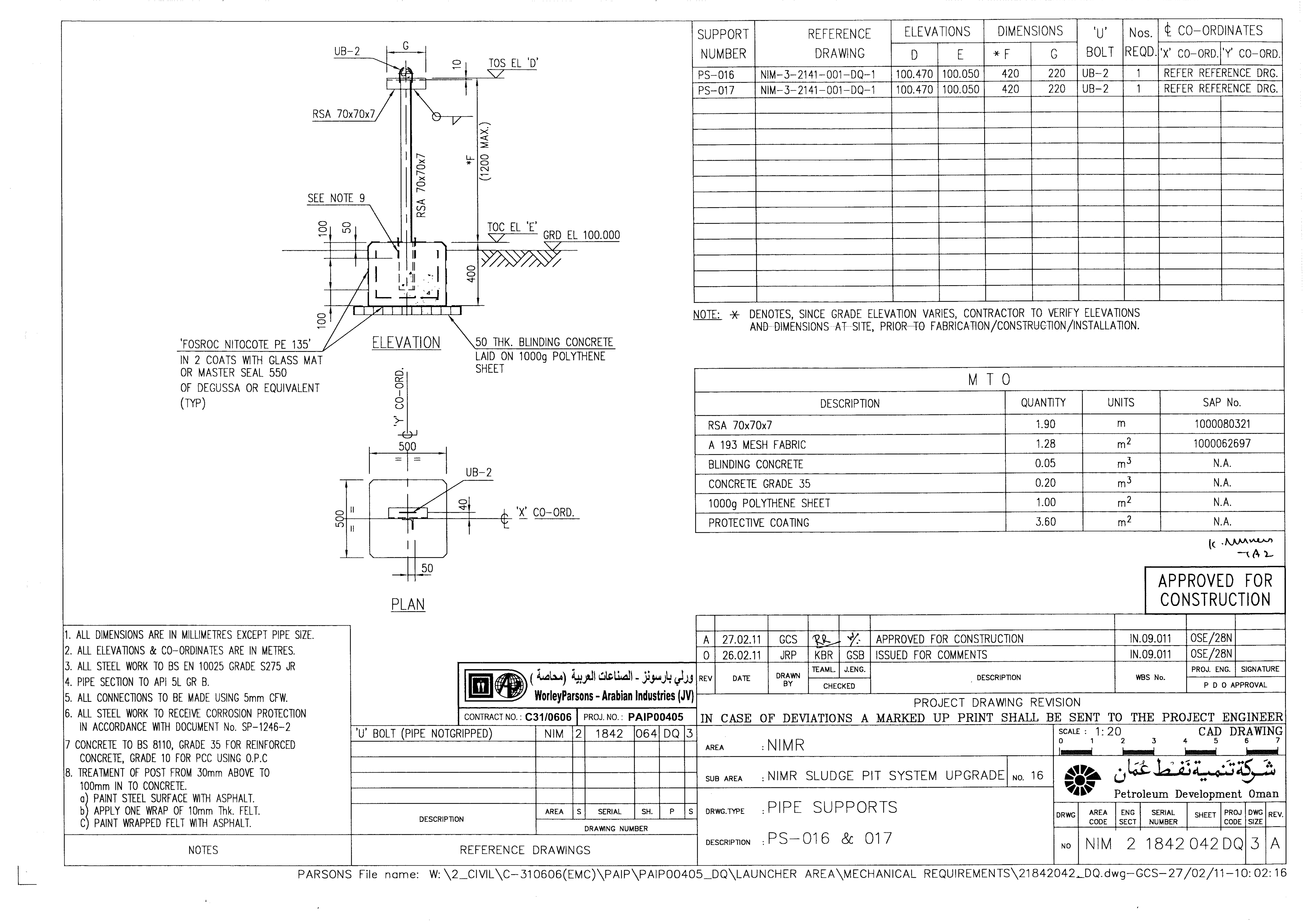
JOB NO.:	**PAIP00405**	**Document No.:**	NIM-2-1842-041-DQ-4
PART ID.:	**NIMR SLUDGE PIT SYSTEM UPGRADE**	**Revision No.:**	A
	PS-008 & 013	Prepared by:	JRP
		Checked by:	PNG RJ
REF. DWG NO.:	**NIM-2-1842-040-DQ-3**	Date:	27.02.11

Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)			90.00	19.80				
Weight (Kgs)			55.80	17.63				
Total Weight (Kgs)								73.430

Designation	**Bar Mark**	**Type & Size**	**Nos. Reqd**	**No. of Bars in each**	**Total Nos.**	**Length of each Bar †**	**Shape code**	**A***	**B***	**C***	**D***	**E/R***
PS-008 & 013	1	T10	2	28	56	1325	21	125	1100	125		
	2	T12	2	12	24	825	11	200	630			
	3	T10	2	4	8	1975	51	450	450			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS D	ELEVATIONS E	DIMENSIONS *F	DIMENSIONS G	'U' BOLT	Nos. REQD.	℄ CO-ORDINATES 'X' CO-ORD.	'Y' CO-ORD.
PS-016	NIM-3-2141-001-DQ-1	100.470	100.050	420	220	UB-2	1	REFER REFERENCE DRG.	
PS-017	NIM-3-2141-001-DQ-1	100.470	100.050	420	220	UB-2	1	REFER REFERENCE DRG.	

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
RSA 70x70x7	1.90	m	1000080321
A 193 MESH FABRIC	1.28	m^2	1000062697
BLINDING CONCRETE	0.05	m^3	N.A.
CONCRETE GRADE 35	0.20	m^3	N.A.
1000g POLYTHENE SHEET	1.00	m^2	N.A.
PROTECTIVE COATING	3.60	m^2	N.A.

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT PIPE SIZE.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2
7. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR PCC USING O.P.C
8. TREATMENT OF POST FROM 30mm ABOVE TO 100mm IN TO CONCRETE.
   a) PAINT STEEL SURFACE WITH ASPHALT.
   b) APPLY ONE WRAP OF 10mm Thk. FELT.
   c) PAINT WRAPPED FELT WITH ASPHALT.

NOTES

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
'U' BOLT (PIPE NOTGRIPPED)	NIM	2	1842	064	DQ	3

DRAWING NUMBER

REFERENCE DRAWINGS

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RR	Y:	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE : 1:20 — CAD DRAWING

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEM UPGRADE — NO. 16

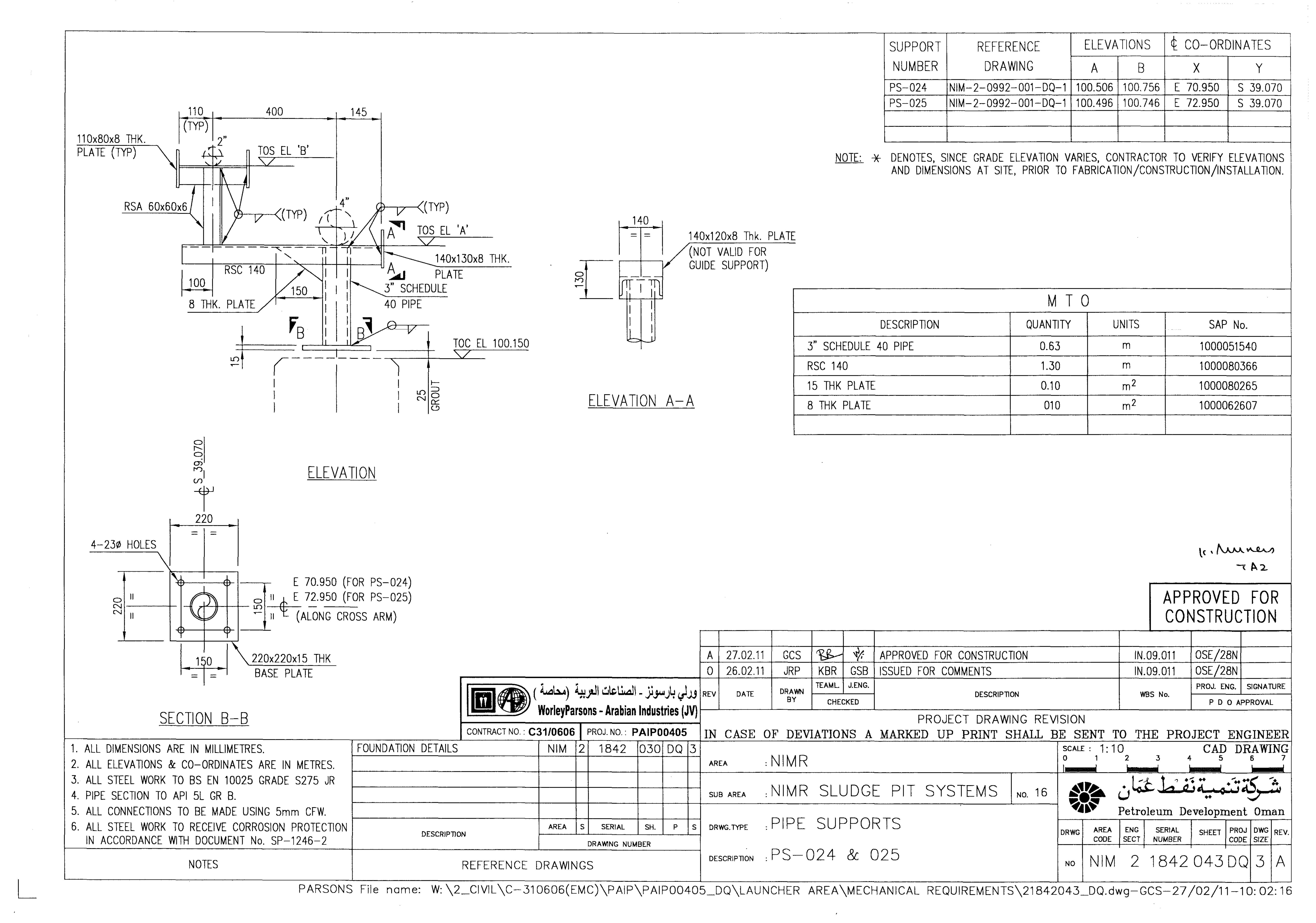
DRWG.TYPE : PIPE SUPPORTS

DESCRIPTION : PS-016 & 017

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	042	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842042_DQ.dwg-GCS-27/02/11-10:02:16



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS B	℄ CO–ORDINATES X	℄ CO–ORDINATES Y
PS–024	NIM–2–0992–001–DQ–1	100.506	100.756	E 70.950	S 39.070
PS–025	NIM–2–0992–001–DQ–1	100.496	100.746	E 72.950	S 39.070

NOTE: ✱ DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	0.63	m	1000051540
RSC 140	1.30	m	1000080366
15 THK PLATE	0.10	m^2	1000080265
8 THK PLATE	010	m^2	1000062607

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB		APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO–ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP–1246–2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
FOUNDATION DETAILS	NIM	2	1842	030	DQ	3

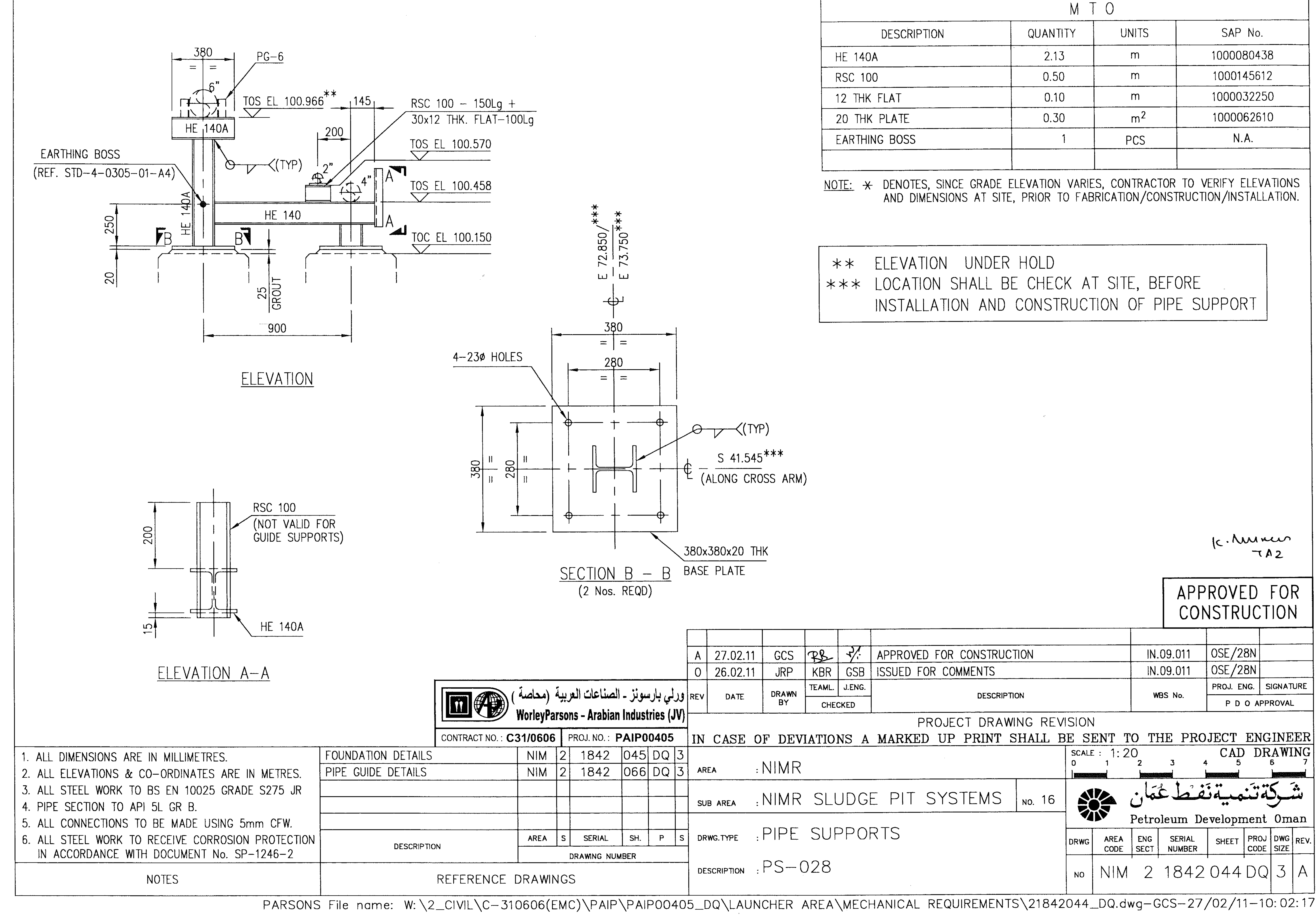
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16
DRWG. TYPE : PIPE SUPPORTS
DESCRIPTION : PS–024 & 025

SCALE : 1:10 CAD DRAWING

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DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	1842	043	DQ	3	A

PARSONS File name: W:\2_CIVIL\C–310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842043_DQ.dwg–GCS–27/02/11–10:02:16

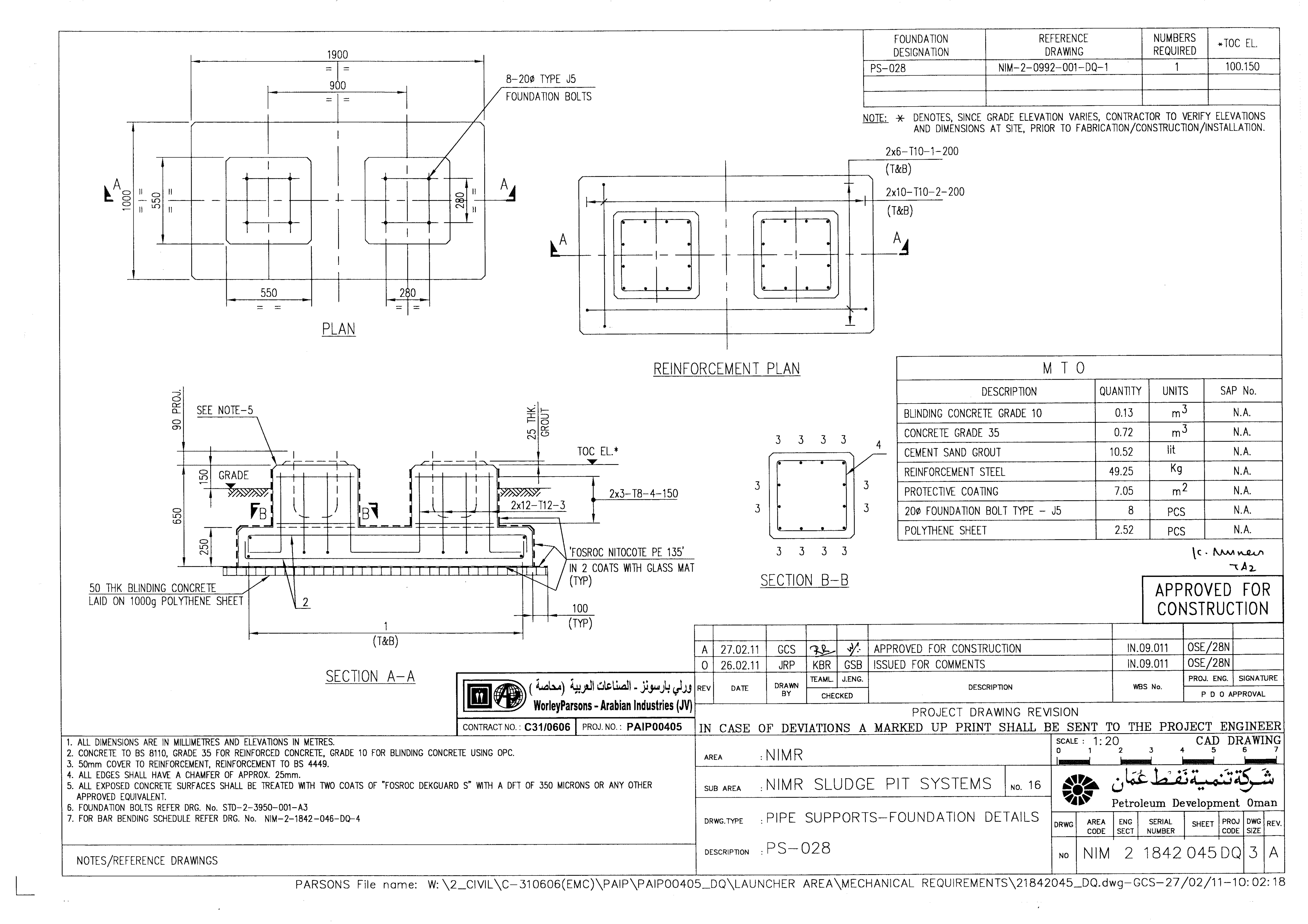


M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 140A	2.13	m	1000080438
RSC 100	0.50	m	1000145612
12 THK FLAT	0.10	m	1000032250
20 THK PLATE	0.30	m^2	1000062610
EARTHING BOSS	1	PCS	N.A.

REV	DATE	DRAWN BY	TEAML.	J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
FOUNDATION DETAILS	NIM	2	1842	045	DQ	3
PIPE GUIDE DETAILS	NIM	2	1842	066	DQ	3



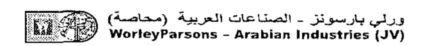
FOUNDATION DESIGNATION	REFERENCE DRAWING	NUMBERS REQUIRED	*TOC EL.
PS-028	NIM-2-0992-001-DQ-1	1	100.150

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE GRADE 10	0.13	m^3	N.A.
CONCRETE GRADE 35	0.72	m^3	N.A.
CEMENT SAND GROUT	10.52	lit	N.A.
REINFORCEMENT STEEL	49.25	Kg	N.A.
PROTECTIVE COATING	7.05	m^2	N.A.
20ø FOUNDATION BOLT TYPE - J5	8	PCS	N.A.
POLYTHENE SHEET	2.52	PCS	N.A.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	27.02.11	GCS	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	



BAR BENDING SCHEDULE

JOB NO.:	**PAIP00405**	**Document No.:**	NIM-2-1842-046-DQ-4
PART ID.:	**NIMR SLUDGE PIT SYSTEM UPGRADE**	**Revision No.:**	A
	PS-028	Prepared by:	JRP
		Checked by:	PNG
REF. DWG NO.:	**NIM-2-1842-045-DQ-3**	Date:	27.02.11

Total MTO for Rebars.

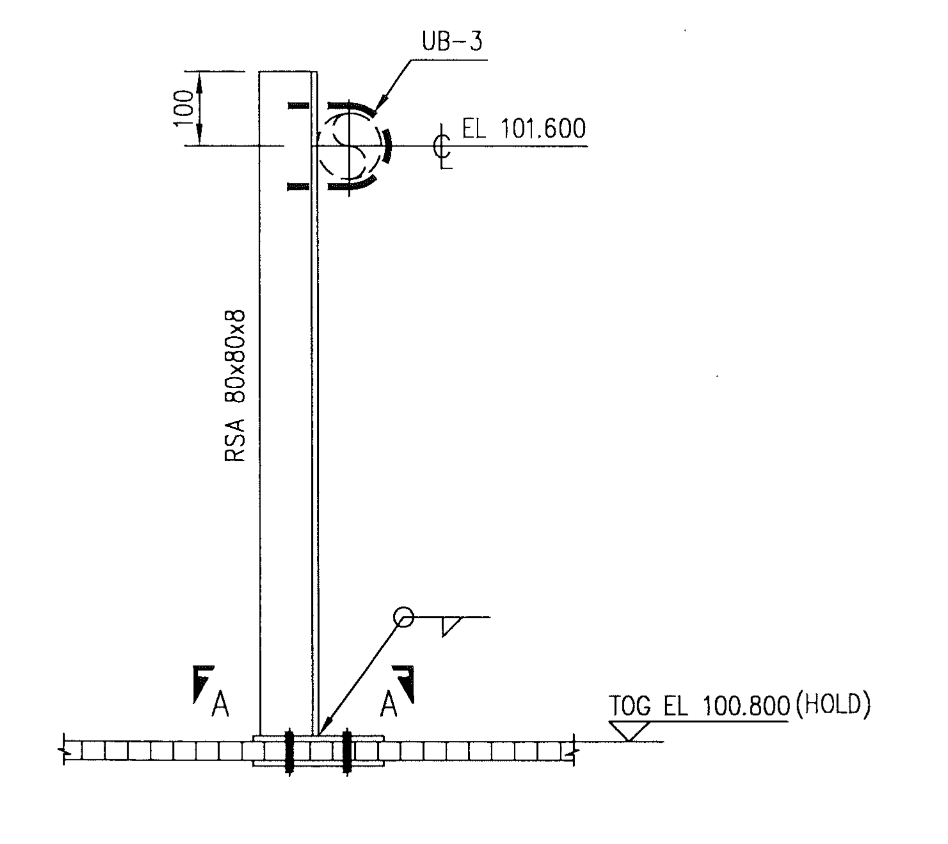
Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		11.85	46.80	17.40				
Weight (Kgs)		4.74	29.02	15.49				
Total Weight (Kgs)								49.250

K. Murugan
-TA2

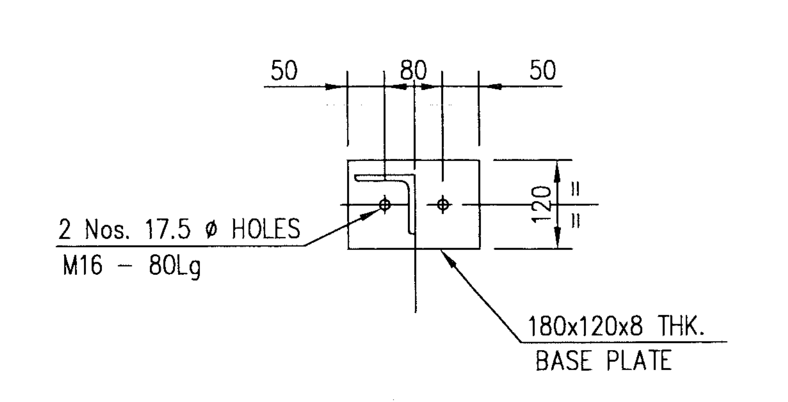
Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PS-028	1	T10	1	12	12	2025	21	125	1800	125		
	2	T10	1	20	20	1125	21	125	900	125		
	3	T12	1	24	24	725	11	200	530			
	4	T8	1	6	6	1975	51	450	450			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm

M T O			
DESCRIPTION	QUANTITY	UNITS	SAP No.
RSA 80x80x8	1.80	m	1000062630
8 THK PLATE	0.10	m^2	1000062607
M16 DIA BOLTS	4	Nos.	1000062607



ELEVATION
(2 Nos. REQD)



SECTION A–A
(2x2 Nos. REQ'D)

k. Auness
TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB	V.	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

NOTES

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPING G.A (PS-029)	NIM	3	2140	001	DQ	1
PIPING G.A (PS-045)	NIM	3	2142	001	DQ	1
'U' BOLT (PIPE NOT GRIPPED)	NIM	2	1842	064	DQ	3

DRAWING NUMBER

REFERENCE DRAWINGS

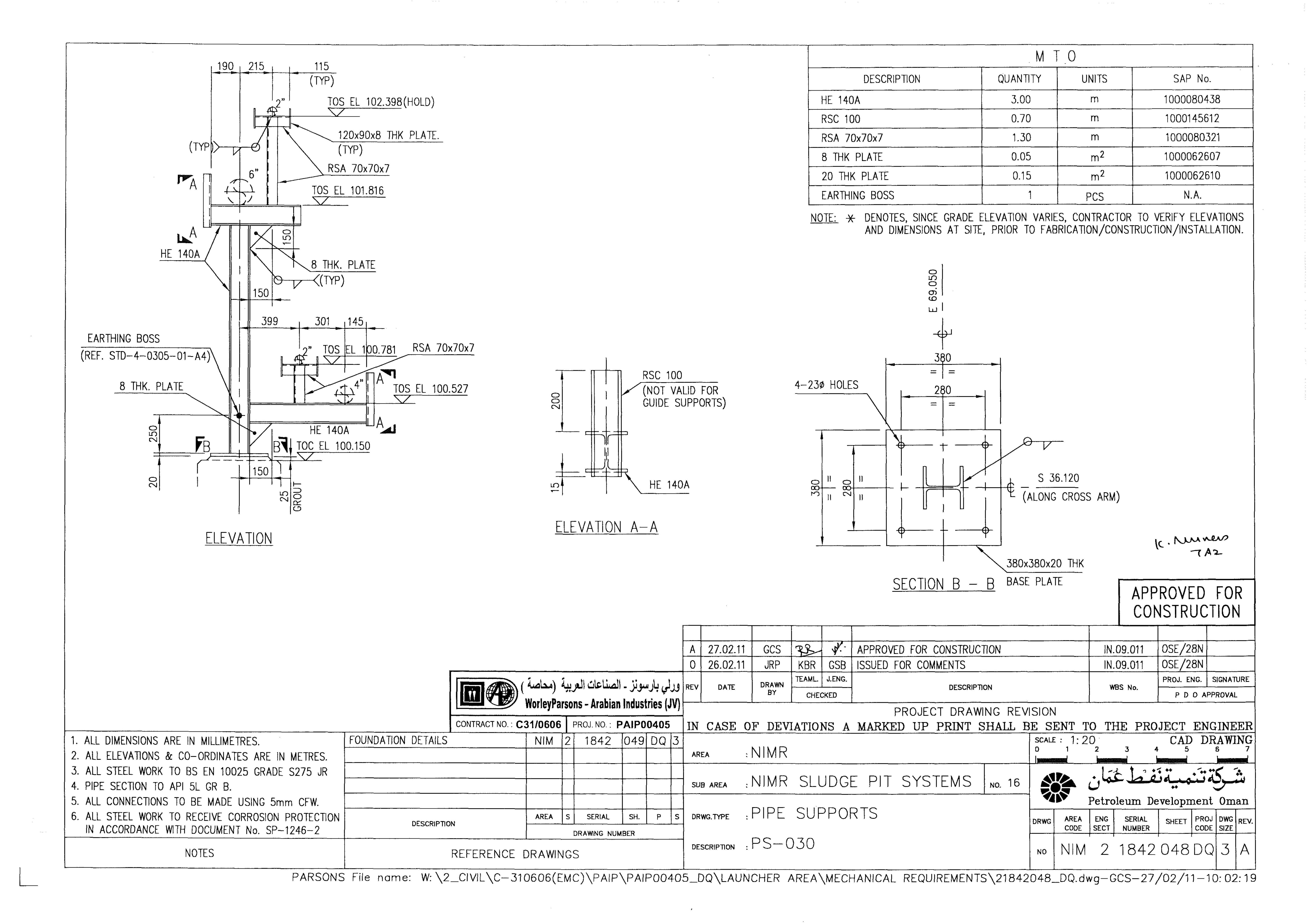
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS–029 & 045

SCALE : 1:10 CAD DRAWING
0 1 2 3 4 5 6 7

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	047	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842047_DQ.dwg-GCS-27/02/11-10:02:19



M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 140A	3.00	m	1000080438
RSC 100	0.70	m	1000145612
RSA 70x70x7	1.30	m	1000080321
8 THK PLATE	0.05	m^2	1000062607
20 THK PLATE	0.15	m^2	1000062610
EARTHING BOSS	1	PCS	N.A.

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	TEAML.	J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

CHECKED — P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
FOUNDATION DETAILS	NIM	2	1842	049	DQ	3

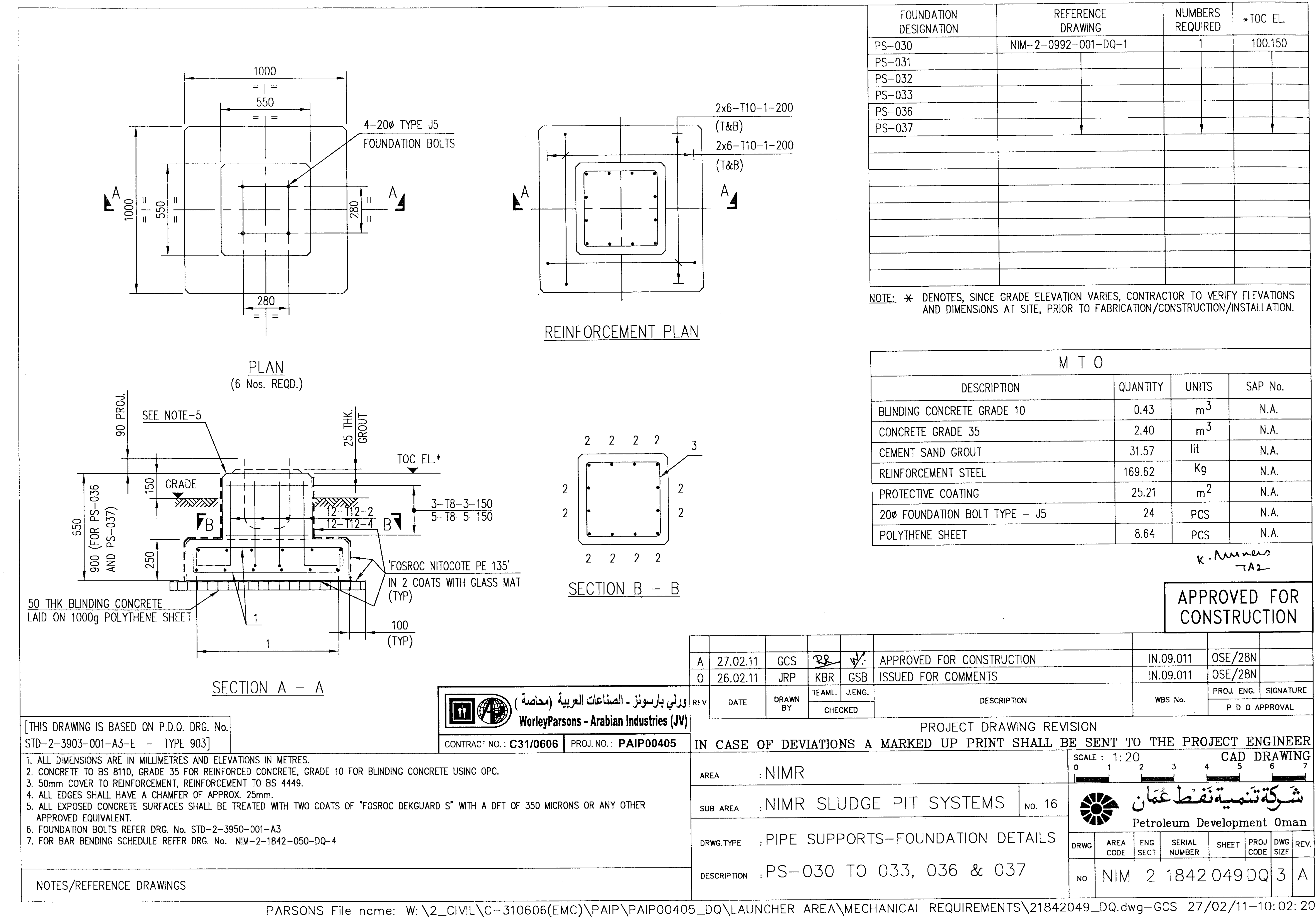
AREA: NIMR
SUB AREA: NIMR SLUDGE PIT SYSTEMS — NO. 16
DRWG.TYPE: PIPE SUPPORTS
DESCRIPTION: PS-030

SCALE: 1:20 — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	048	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842048_DQ.dwg-GCS-27/02/11-10:02:19



FOUNDATION DESIGNATION	REFERENCE DRAWING	NUMBERS REQUIRED	*TOC EL.
PS-030	NIM-2-0992-001-DQ-1	1	100.150
PS-031	↓	↓	↓
PS-032	↓	↓	↓
PS-033	↓	↓	↓
PS-036	↓	↓	↓
PS-037	↓	↓	↓

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE GRADE 10	0.43	m^3	N.A.
CONCRETE GRADE 35	2.40	m^3	N.A.
CEMENT SAND GROUT	31.57	lit	N.A.
REINFORCEMENT STEEL	169.62	Kg	N.A.
PROTECTIVE COATING	25.21	m^2	N.A.
20ø FOUNDATION BOLT TYPE - J5	24	PCS	N.A.
POLYTHENE SHEET	8.64	PCS	N.A.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB	W	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: **C31/0606** PROJ. NO.: **PAIP00405**

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3903-001-A3-E - TYPE 903]

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. ALL EDGES SHALL HAVE A CHAMFER OF APPROX. 25mm.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOUNDATION BOLTS REFER DRG. No. STD-2-3950-001-A3
7. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-1842-050-DQ-4

NOTES/REFERENCE DRAWINGS

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16

DRWG.TYPE : PIPE SUPPORTS-FOUNDATION DETAILS

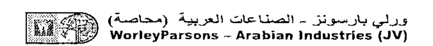
DESCRIPTION : PS-030 TO 033, 036 & 037

SCALE : 1:20 CAD DRAWING

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	049	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842049_DQ.dwg-GCS-27/02/11-10:02:20



BAR BENDING SCHEDULE

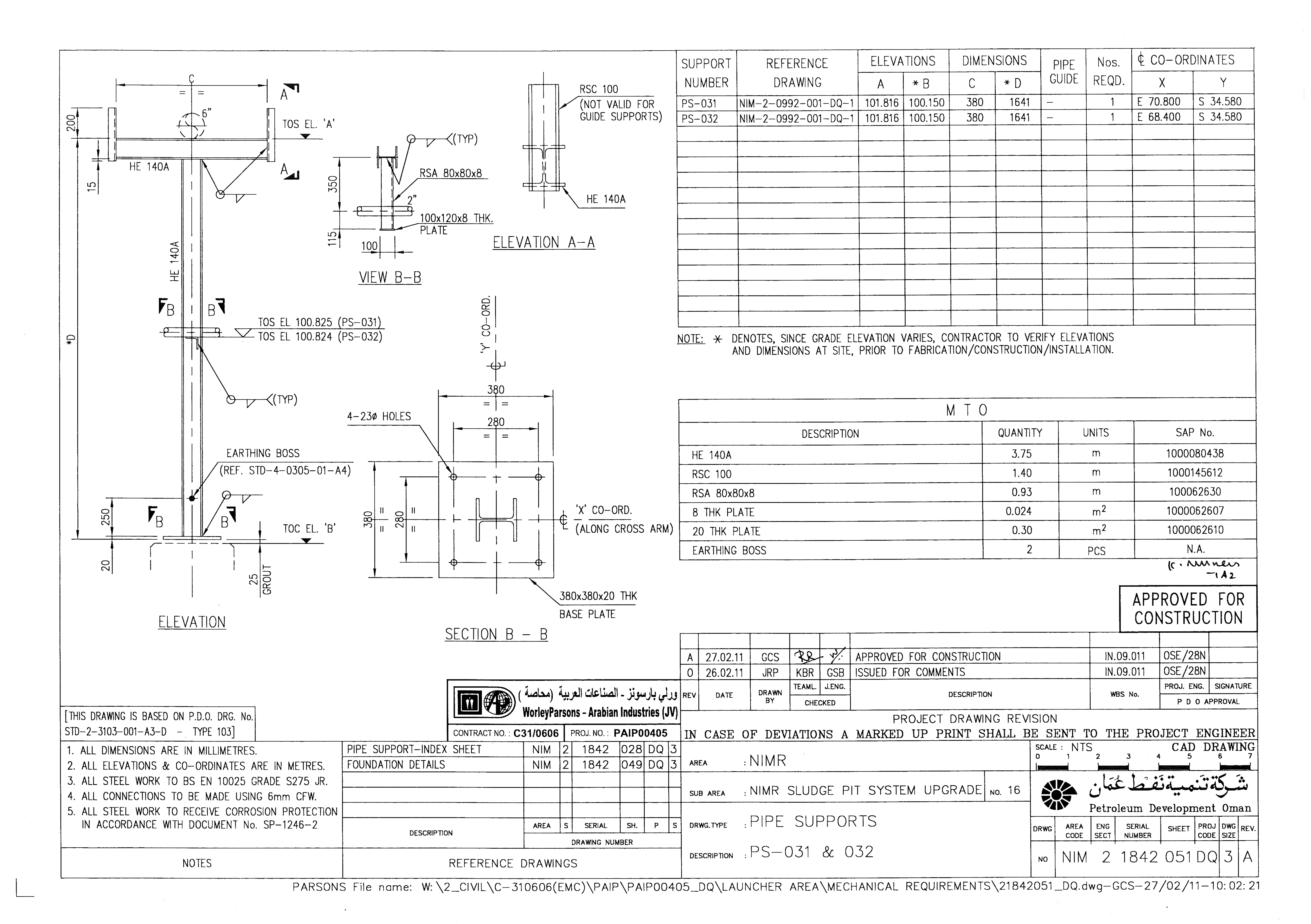
JOB NO.:	PAIP00405	Document No.:	NIM-2-1842-050-DQ-4
PART ID.:	NIMR SLUDGE PIT SYSTEM UPGRADE	Revision No.:	A
	PS-030 TO 033, 036 & 037	Prepared by:	JRP
		Checked by:	PNG
REF. DWG NO.:	NIM-2-1842-049-DQ-3	Date:	27.02.11

Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		43.45	162.00	58.20				
Weight (Kgs)		17.38	100.44	51.80				
Total Weight (Kgs)								169.620

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PS-030 TO 033,	1	T10	6	24	144	1125	21	125	900	125		
	2	T12	4	12	48	725	11	200	530			
	3	T8	4	3	12	1975	51	450	450			
036 & 037	4	T12	2	12	24	975	11	200	780			
	5	T8	2	5	10	1975	51	450	450			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS *B	DIMENSIONS C	DIMENSIONS *D	PIPE GUIDE	Nos. REQD.	℄ CO-ORDINATES X	℄ CO-ORDINATES Y
PS-031	NIM-2-0992-001-DQ-1	101.816	100.150	380	1641	–	1	E 70.800	S 34.580
PS-032	NIM-2-0992-001-DQ-1	101.816	100.150	380	1641	–	1	E 68.400	S 34.580

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 140A	3.75	m	1000080438
RSC 100	1.40	m	1000145612
RSA 80x80x8	0.93	m	100062630
8 THK PLATE	0.024	m^2	1000062607
20 THK PLATE	0.30	m^2	1000062610
EARTHING BOSS	2	PCS	N.A.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	TEAML.	J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

CHECKED — P D O APPROVAL

PROJECT DRAWING REVISION

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3103-001-A3-D - TYPE 103]

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR.
4. ALL CONNECTIONS TO BE MADE USING 6mm CFW.
5. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

NOTES

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPE SUPPORT-INDEX SHEET	NIM	2	1842	028	DQ	3
FOUNDATION DETAILS	NIM	2	1842	049	DQ	3

DRAWING NUMBER

REFERENCE DRAWINGS

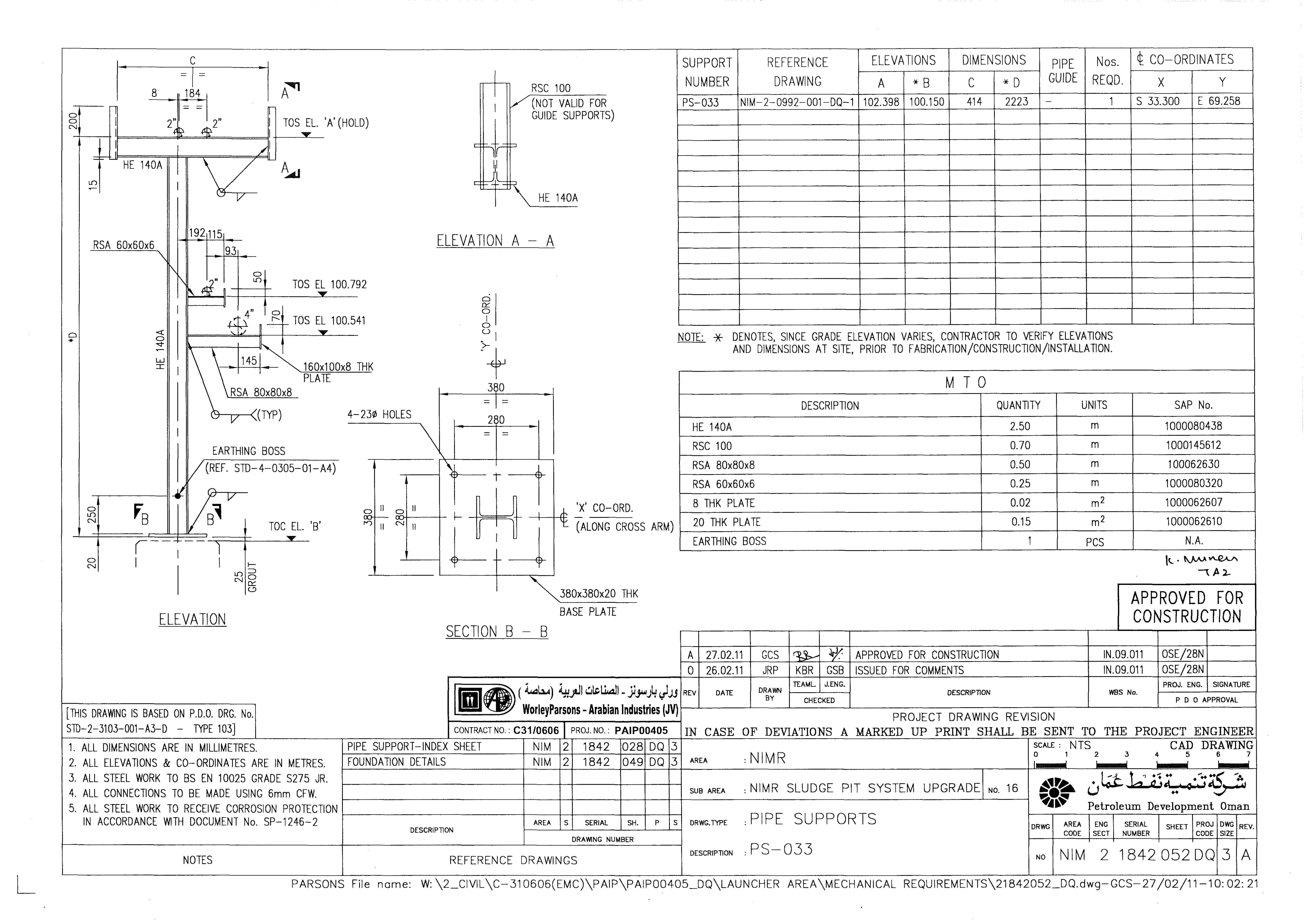
SCALE : NTS — CAD DRAWING

AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEM UPGRADE NO. 16
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS-031 & 032

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Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	1842	051	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842051_DQ.dwg-GCS-27/02/11-10:02:21



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS *B	DIMENSIONS C	DIMENSIONS *D	PIPE GUIDE	Nos. REQD.	¢ CO-ORDINATES X	¢ CO-ORDINATES Y
PS-033	NIM-2-0992-001-DQ-1	102.398	100.150	414	2223	–	1	S 33.300	E 69.258

NOTE: ∗ DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 140A	2.50	m	1000080438
RSC 100	0.70	m	1000145612
RSA 80x80x8	0.50	m	100062630
RSA 60x60x6	0.25	m	1000080320
8 THK PLATE	0.02	m^2	1000062607
20 THK PLATE	0.15	m^2	1000062610
EARTHING BOSS	1	PCS	N.A.

K. Muneer
TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	P D O APPROVAL PROJ. ENG.	P D O APPROVAL SIGNATURE
A	27.02.11	GCS	BB	✓	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3103-001-A3-D – TYPE 103]

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR.
4. ALL CONNECTIONS TO BE MADE USING 6mm CFW.
5. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPE SUPPORT-INDEX SHEET	NIM	2	1842	028	DQ	3
FOUNDATION DETAILS	NIM	2	1842	049	DQ	3

AREA: NIMR

SUB AREA: NIMR SLUDGE PIT SYSTEM UPGRADE NO. 16

DRWG.TYPE: PIPE SUPPORTS

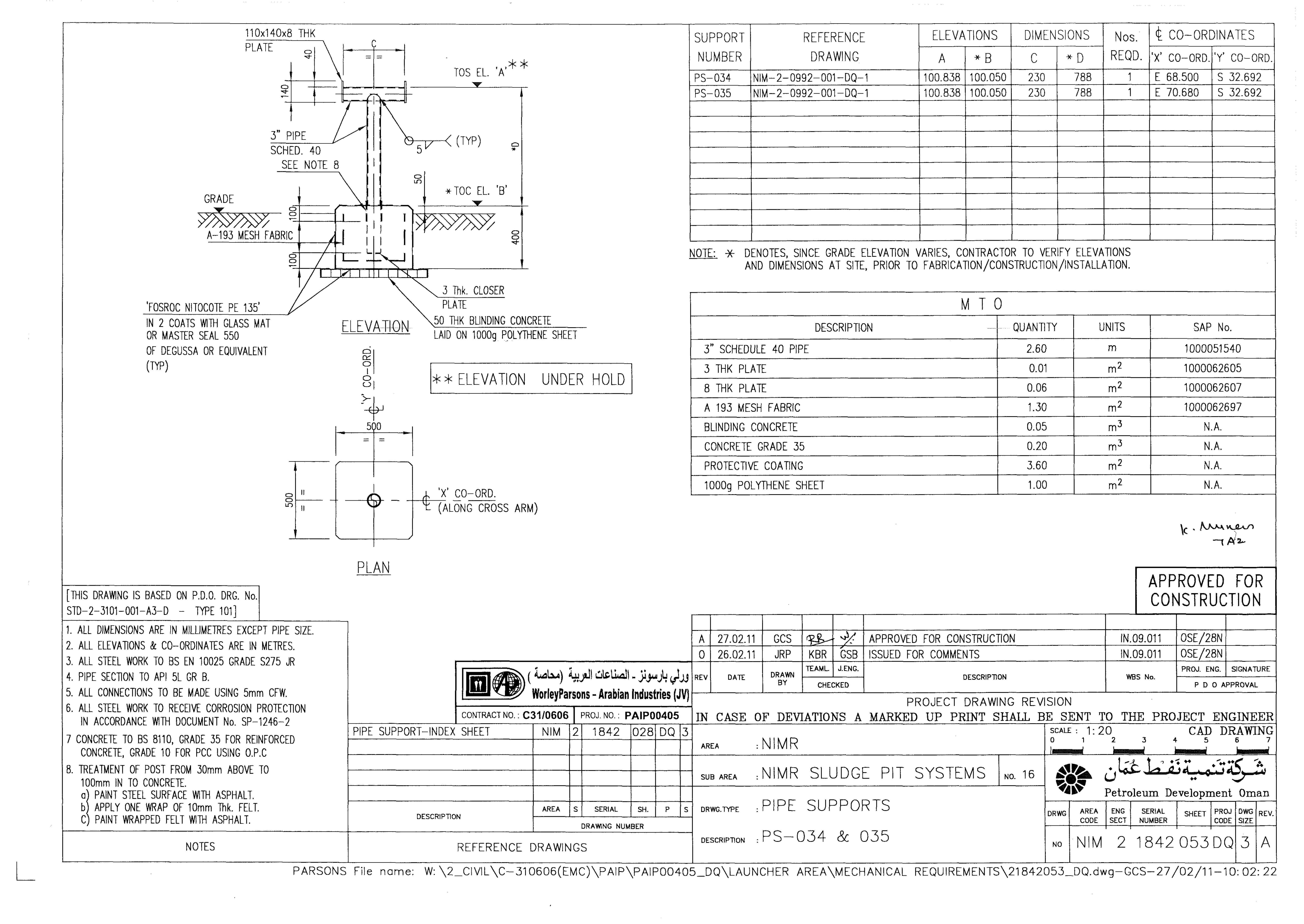
DESCRIPTION: PS-033

SCALE: NTS — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	052	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842052_DQ.dwg-GCS-27/02/11-10:02:21



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS		DIMENSIONS		Nos. REQD.	℄ CO-ORDINATES	
		A	* B	C	* D		'X' CO-ORD.	'Y' CO-ORD.
PS-034	NIM-2-0992-001-DQ-1	100.838	100.050	230	788	1	E 68.500	S 32.692
PS-035	NIM-2-0992-001-DQ-1	100.838	100.050	230	788	1	E 70.680	S 32.692

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	2.60	m	1000051540
3 THK PLATE	0.01	m^2	1000062605
8 THK PLATE	0.06	m^2	1000062607
A 193 MESH FABRIC	1.30	m^2	1000062697
BLINDING CONCRETE	0.05	m^3	N.A.
CONCRETE GRADE 35	0.20	m^3	N.A.
PROTECTIVE COATING	3.60	m^2	N.A.
1000g POLYTHENE SHEET	1.00	m^2	N.A.

k. Muneer
7A2

APPROVED FOR CONSTRUCTION

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3101-001-A3-D - TYPE 101]

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT PIPE SIZE.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2
7 CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR PCC USING O.P.C
8. TREATMENT OF POST FROM 30mm ABOVE TO 100mm IN TO CONCRETE.
   a) PAINT STEEL SURFACE WITH ASPHALT.
   b) APPLY ONE WRAP OF 10mm Thk. FELT.
   C) PAINT WRAPPED FELT WITH ASPHALT.

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPE SUPPORT-INDEX SHEET	NIM	2	1842	028	DQ	3

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE: 1:20 CAD DRAWING

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16

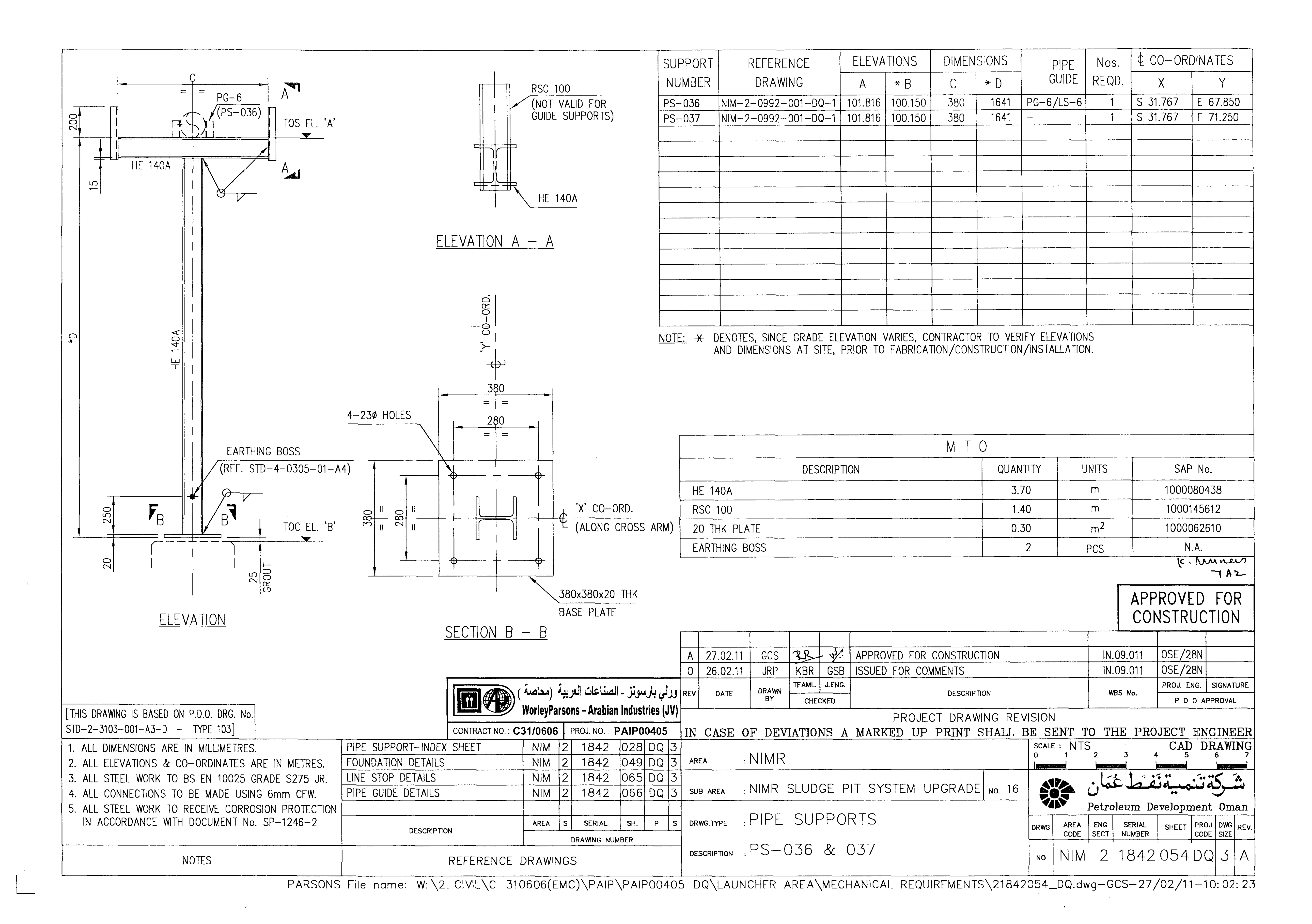
DRWG.TYPE : PIPE SUPPORTS

DESCRIPTION : PS-034 & 035

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	053	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842053_DQ.dwg-GCS-27/02/11-10:02:22



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS * B	DIMENSIONS C	DIMENSIONS * D	PIPE GUIDE	Nos. REQD.	℄ CO-ORDINATES X	℄ CO-ORDINATES Y
PS-036	NIM-2-0992-001-DQ-1	101.816	100.150	380	1641	PG-6/LS-6	1	S 31.767	E 67.850
PS-037	NIM-2-0992-001-DQ-1	101.816	100.150	380	1641	–	1	S 31.767	E 71.250

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 140A	3.70	m	1000080438
RSC 100	1.40	m	1000145612
20 THK PLATE	0.30	m^2	1000062610
EARTHING BOSS	2	PCS	N.A.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3103-001-A3-D – TYPE 103]

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR.
4. ALL CONNECTIONS TO BE MADE USING 6mm CFW.
5. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPE SUPPORT-INDEX SHEET	NIM	2	1842	028	DQ	3
FOUNDATION DETAILS	NIM	2	1842	049	DQ	3
LINE STOP DETAILS	NIM	2	1842	065	DQ	3
PIPE GUIDE DETAILS	NIM	2	1842	066	DQ	3

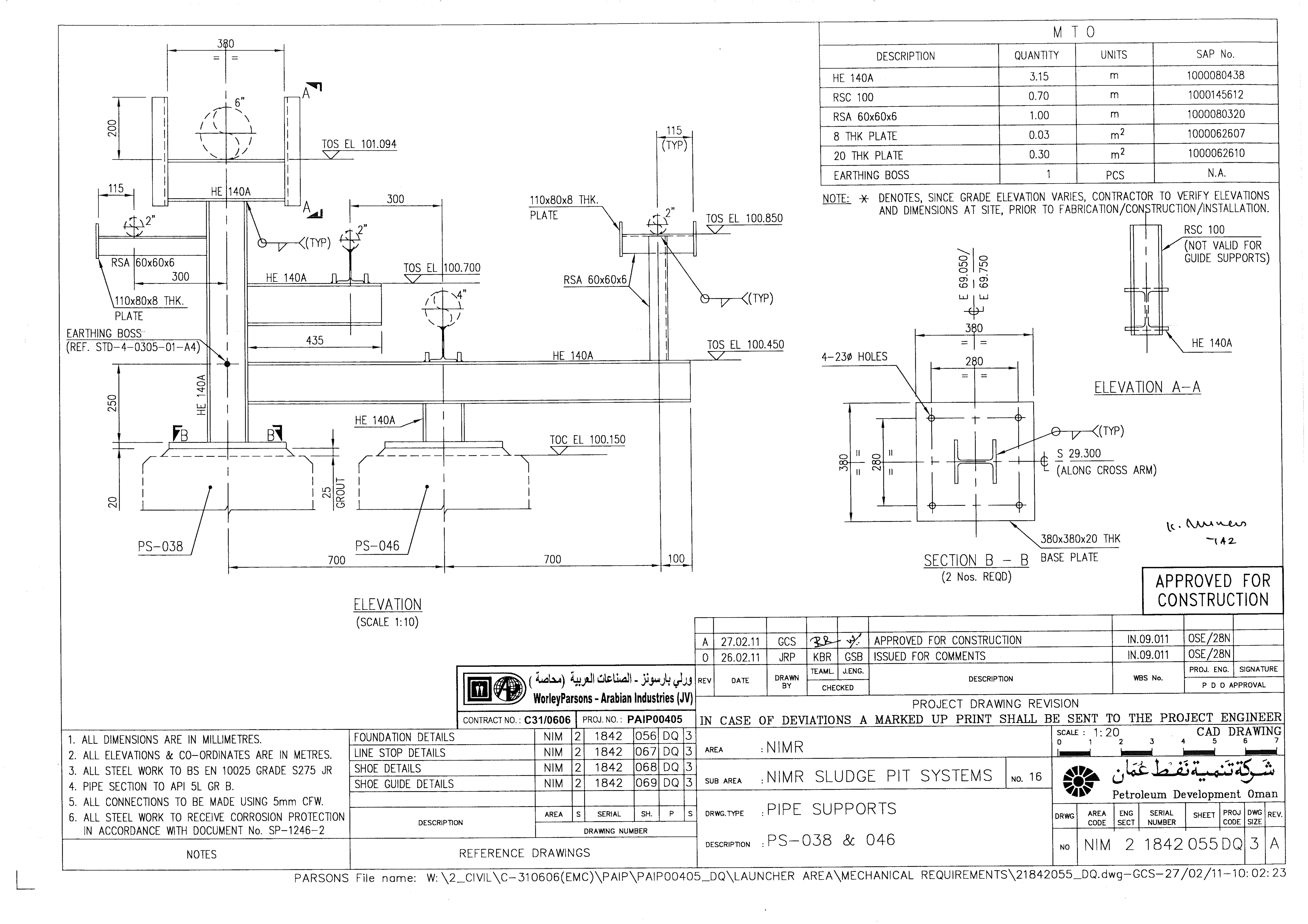
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEM UPGRADE NO. 16
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS-036 & 037

SCALE : NTS CAD DRAWING

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	054	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842054_DQ.dwg-GCS-27/02/11-10:02:23



M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 140A	3.15	m	1000080438
RSC 100	0.70	m	1000145612
RSA 60x60x6	1.00	m	1000080320
8 THK PLATE	0.03	m^2	1000062607
20 THK PLATE	0.30	m^2	1000062610
EARTHING BOSS	1	PCS	N.A.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
FOUNDATION DETAILS	NIM	2	1842	056	DQ	3
LINE STOP DETAILS	NIM	2	1842	067	DQ	3
SHOE DETAILS	NIM	2	1842	068	DQ	3
SHOE GUIDE DETAILS	NIM	2	1842	069	DQ	3

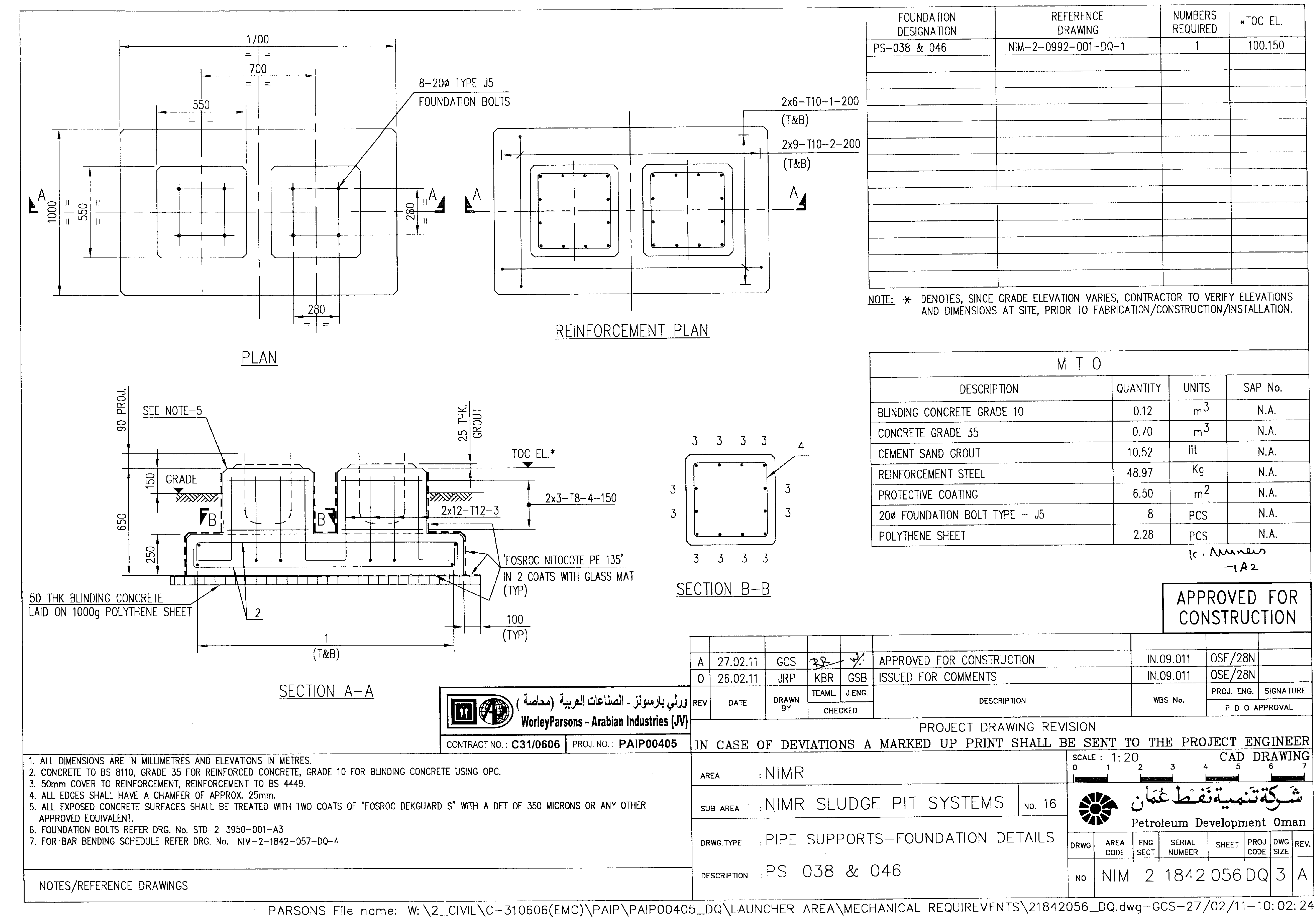
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16
DRWG. TYPE : PIPE SUPPORTS
DESCRIPTION : PS-038 & 046

SCALE : 1:20 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	1842	055	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842055_DQ.dwg-GCS-27/02/11-10:02:23



FOUNDATION DESIGNATION	REFERENCE DRAWING	NUMBERS REQUIRED	*TOC EL.
PS-038 & 046	NIM-2-0992-001-DQ-1	1	100.150

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE GRADE 10	0.12	m^3	N.A.
CONCRETE GRADE 35	0.70	m^3	N.A.
CEMENT SAND GROUT	10.52	lit	N.A.
REINFORCEMENT STEEL	48.97	Kg	N.A.
PROTECTIVE COATING	6.50	m^2	N.A.
20ø FOUNDATION BOLT TYPE - J5	8	PCS	N.A.
POLYTHENE SHEET	2.28	PCS	N.A.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)

WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: **C31/0606** PROJ. NO.: **PAIP00405**

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. ALL EDGES SHALL HAVE A CHAMFER OF APPROX. 25mm.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOUNDATION BOLTS REFER DRG. No. STD-2-3950-001-A3
7. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-1842-057-DQ-4

NOTES/REFERENCE DRAWINGS

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16

DRWG.TYPE : PIPE SUPPORTS-FOUNDATION DETAILS

DESCRIPTION : PS-038 & 046

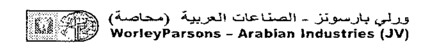
SCALE : 1:20 — CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	1842	056	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842056_DQ.dwg-GCS-27/02/11-10:02:24



BAR BENDING SCHEDULE

JOB NO.: PAIP00405
PART ID.: NIMR SLUDGE PIT SYSTEM UPGRADE
PS-038 & 046
REF. DWG NO.: NIM-2-1842-056-DQ-3

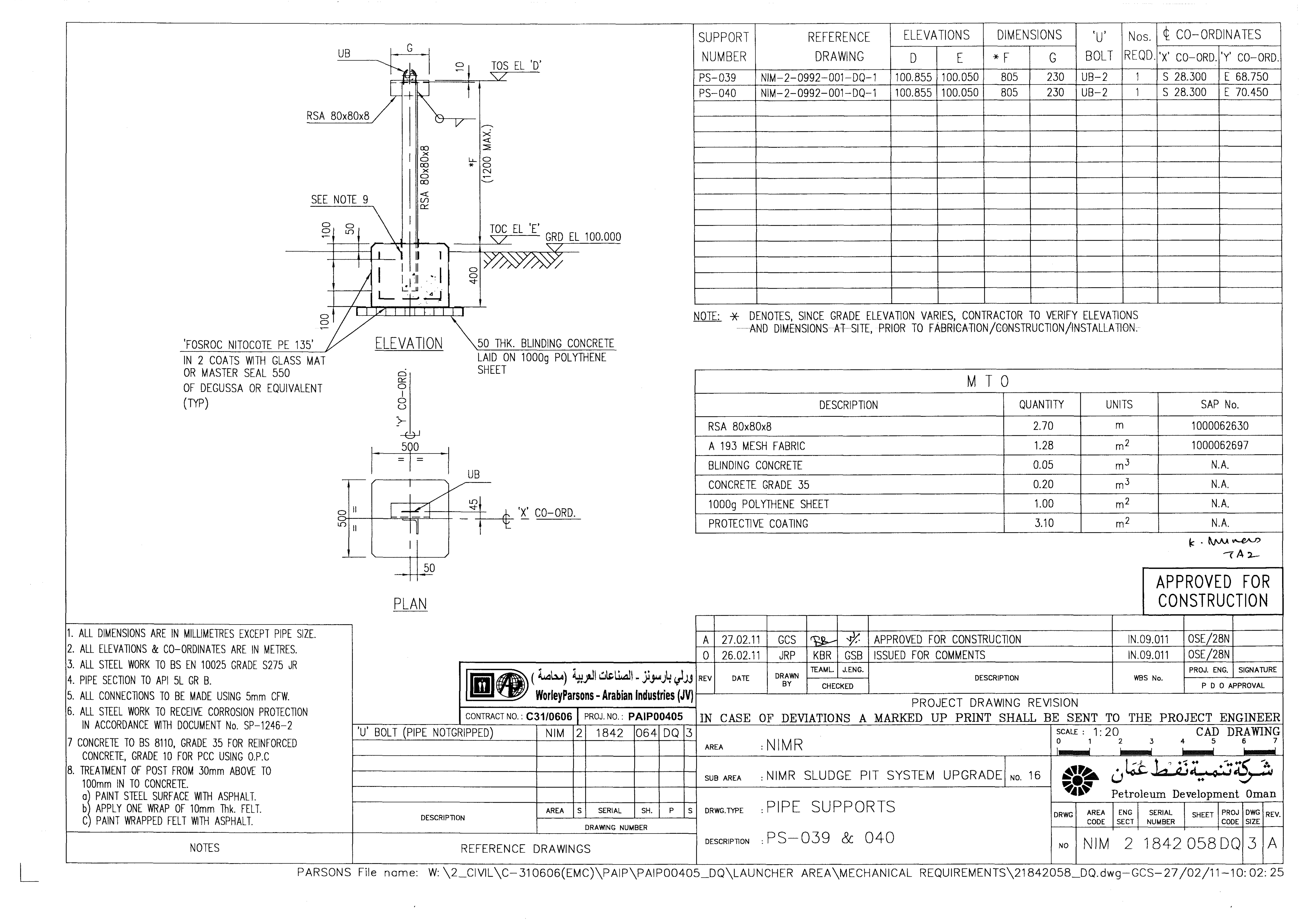
Document No.: NIM-2-1842-057-DQ-4
Revision No.: A
Prepared by: JRP
Checked by: PNG
Date: 27.02.11

Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		11.85	46.35	17.40				
Weight (Kgs)		4.74	28.74	15.49				
Total Weight (Kgs)								48.970

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PS-038 & 046	1	T10	1	12	12	1125	21	125	900	125		
	2	T10	1	18	18	1825	21	125	1600	125		
	3	T12	1	24	24	725	11	200	530			
	4	T8	1	6	6	1975	51	450	450			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS D	ELEVATIONS E	DIMENSIONS * F	DIMENSIONS G	'U' BOLT	Nos. REQD.	℄ CO-ORDINATES 'X' CO-ORD.	℄ CO-ORDINATES 'Y' CO-ORD.
PS-039	NIM-2-0992-001-DQ-1	100.855	100.050	805	230	UB-2	1	S 28.300	E 68.750
PS-040	NIM-2-0992-001-DQ-1	100.855	100.050	805	230	UB-2	1	S 28.300	E 70.450

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
RSA 80x80x8	2.70	m	1000062630
A 193 MESH FABRIC	1.28	m^2	1000062697
BLINDING CONCRETE	0.05	m^3	N.A.
CONCRETE GRADE 35	0.20	m^3	N.A.
1000g POLYTHENE SHEET	1.00	m^2	N.A.
PROTECTIVE COATING	3.10	m^2	N.A.

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APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

(ورلي بارسونز - الصناعات العربية (محاصة
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT PIPE SIZE.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2
7. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR PCC USING O.P.C
8. TREATMENT OF POST FROM 30mm ABOVE TO 100mm IN TO CONCRETE.
   a) PAINT STEEL SURFACE WITH ASPHALT.
   b) APPLY ONE WRAP OF 10mm Thk. FELT.
   C) PAINT WRAPPED FELT WITH ASPHALT.

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
'U' BOLT (PIPE NOTGRIPPED)	NIM	2	1842	064	DQ	3

DRAWING NUMBER

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEM UPGRADE NO. 16

DRWG.TYPE : PIPE SUPPORTS

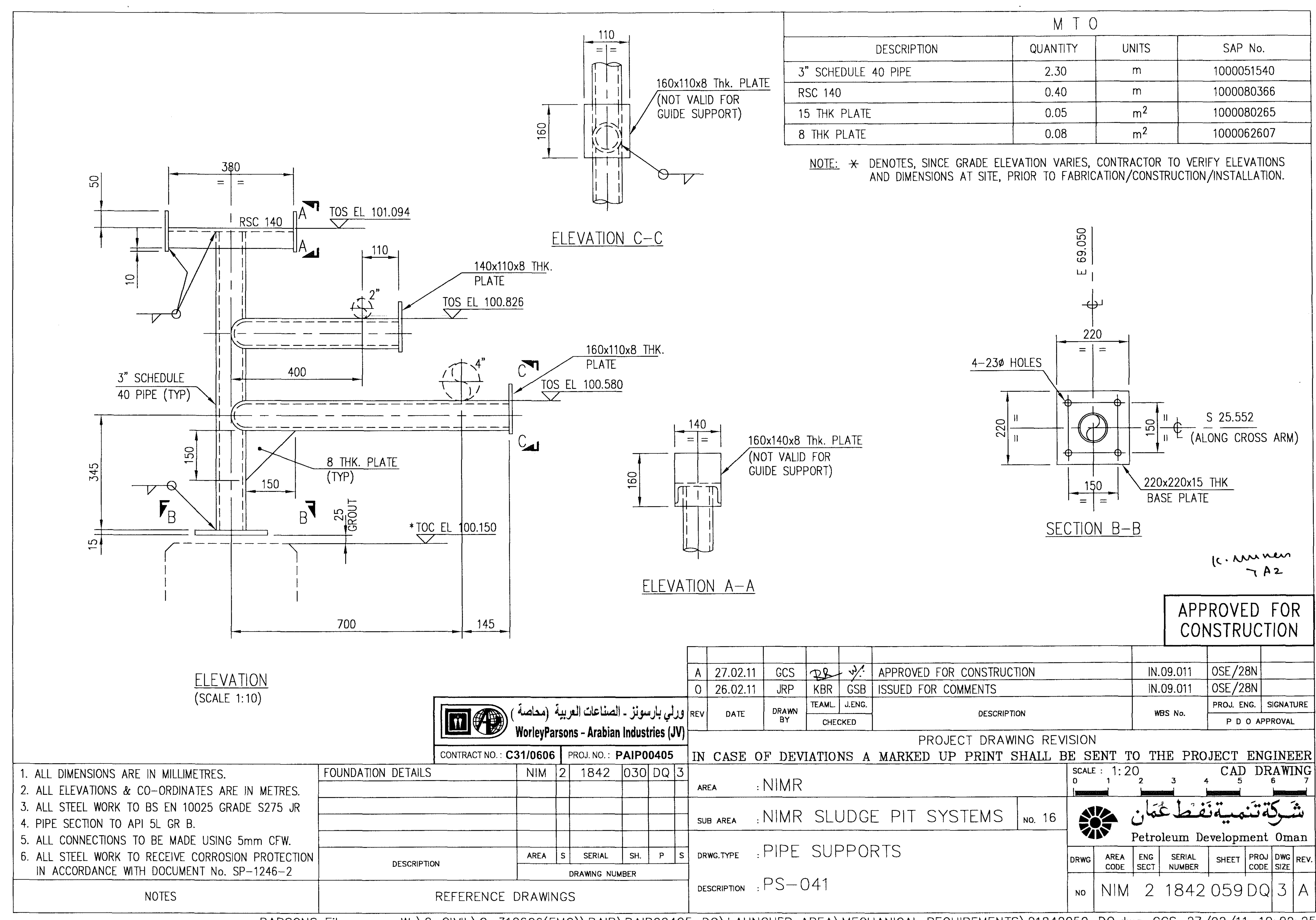
DESCRIPTION : PS-039 & 040

SCALE : 1:20 CAD DRAWING

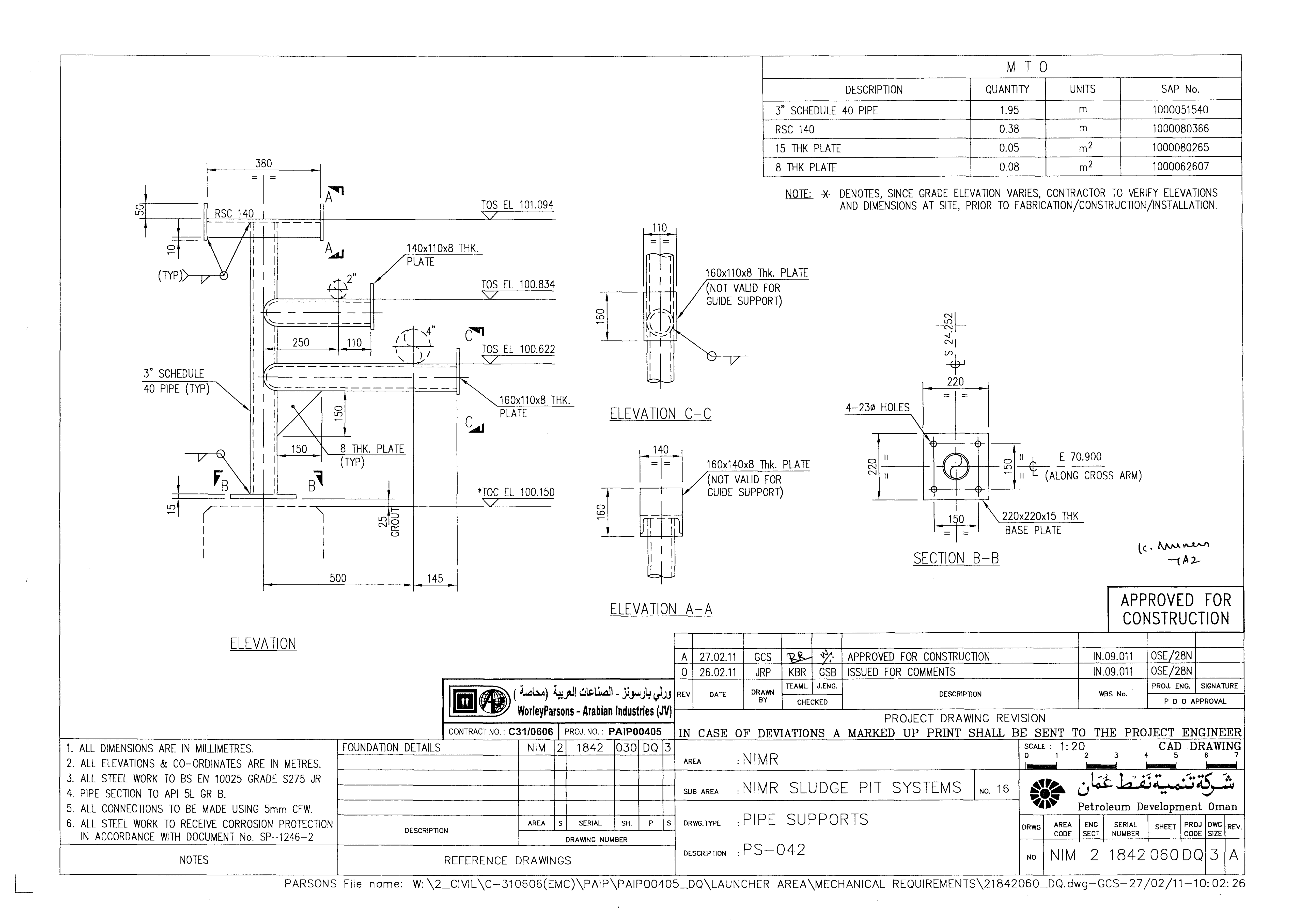
شركة تنمية نفط عمان
Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	1842	058	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842058_DQ.dwg-GCS-27/02/11-10:02:25



DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	2.30	m	1000051540
RSC 140	0.40	m	1000080366
15 THK PLATE	0.05	m^2	1000080265
8 THK PLATE	0.08	m^2	1000062607



M T O			
DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	1.95	m	1000051540
RSC 140	0.38	m	1000080366
15 THK PLATE	0.05	m^2	1000080265
8 THK PLATE	0.08	m^2	1000062607

NOTE: ✻ DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	JRP	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
FOUNDATION DETAILS	NIM	2	1842	030	DQ	3

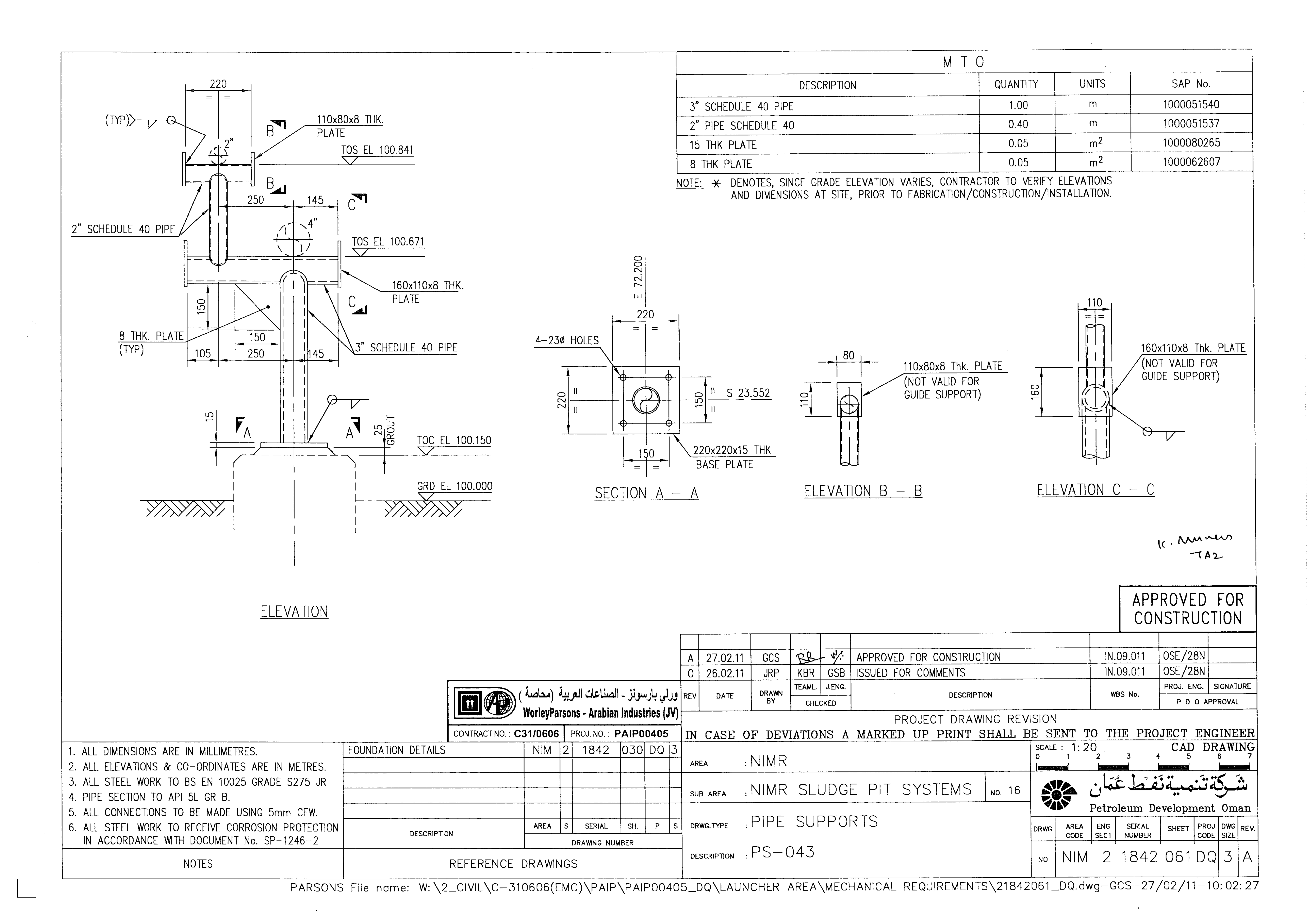
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS-042

SCALE : 1:20 CAD DRAWING

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DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	1842	060	DQ	3	A

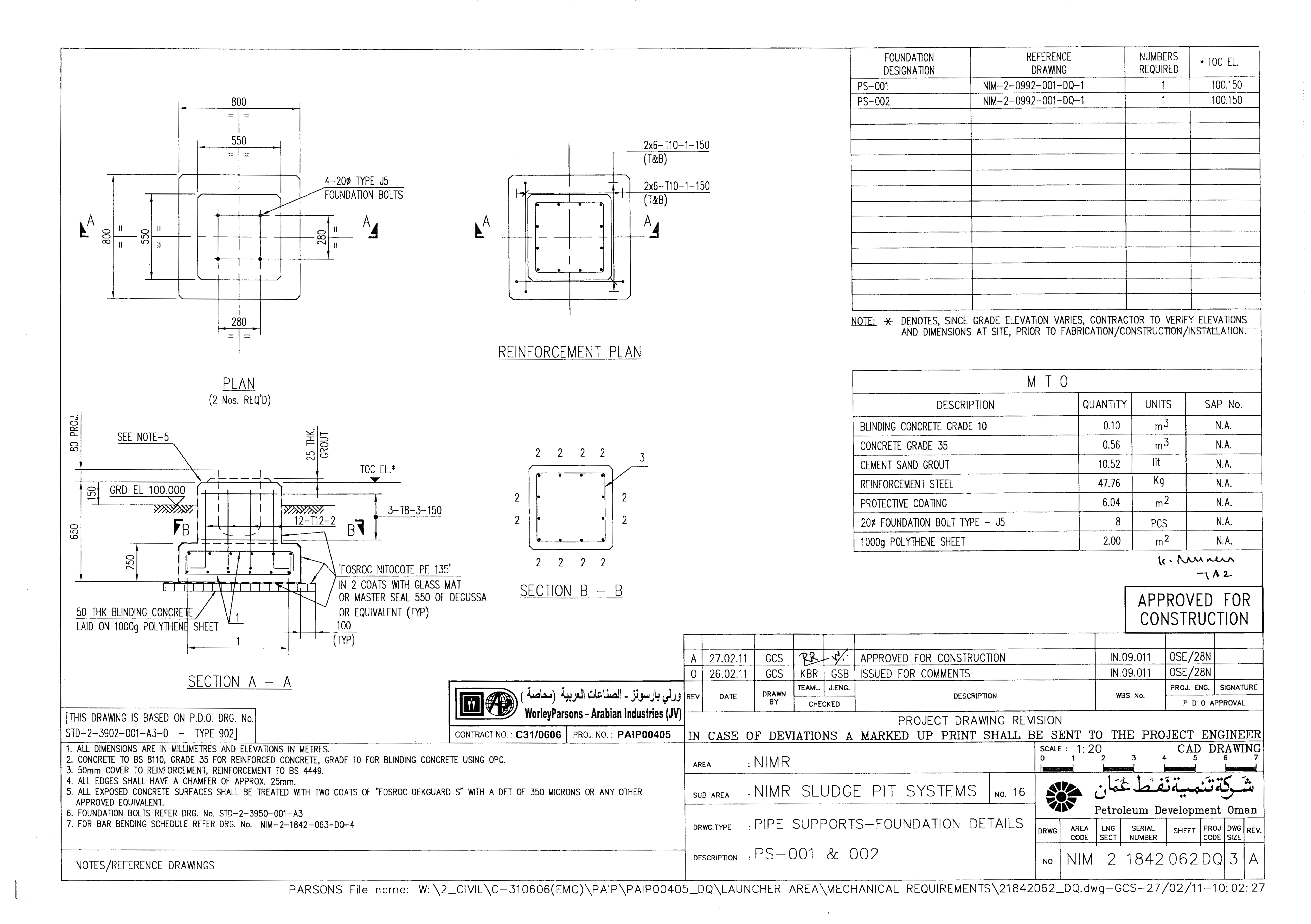
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M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	1.00	m	1000051540
2" PIPE SCHEDULE 40	0.40	m	1000051537
15 THK PLATE	0.05	m^2	1000080265
8 THK PLATE	0.05	m^2	1000062607

NOTE: ✱ DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.



FOUNDATION DESIGNATION	REFERENCE DRAWING	NUMBERS REQUIRED	* TOC EL.
PS-001	NIM-2-0992-001-DQ-1	1	100.150
PS-002	NIM-2-0992-001-DQ-1	1	100.150

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

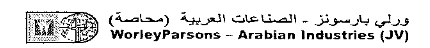
M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE GRADE 10	0.10	m^3	N.A.
CONCRETE GRADE 35	0.56	m^3	N.A.
CEMENT SAND GROUT	10.52	lit	N.A.
REINFORCEMENT STEEL	47.76	Kg	N.A.
PROTECTIVE COATING	6.04	m^2	N.A.
20ø FOUNDATION BOLT TYPE – J5	8	PCS	N.A.
1000g POLYTHENE SHEET	2.00	m^2	N.A.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	P D O APPROVAL PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RR	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. ALL EDGES SHALL HAVE A CHAMFER OF APPROX. 25mm.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOUNDATION BOLTS REFER DRG. No. STD-2-3950-001-A3
7. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-1842-063-DQ-4

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	062	DQ	3	A



BAR BENDING SCHEDULE

JOB NO.:	PAIP00405	Document No.:	NIM-2-1842-063-DQ-4
PART ID.:	NIMR SLUDGE PIT SYSTEM UPGRADE PS-001 & 002	Revision No.:	A
		Prepared by:	GCS
		Checked by:	PNG RR
REF. DWG NO.:	NIM-2-1842-062-DQ-3	Date:	27.02.11

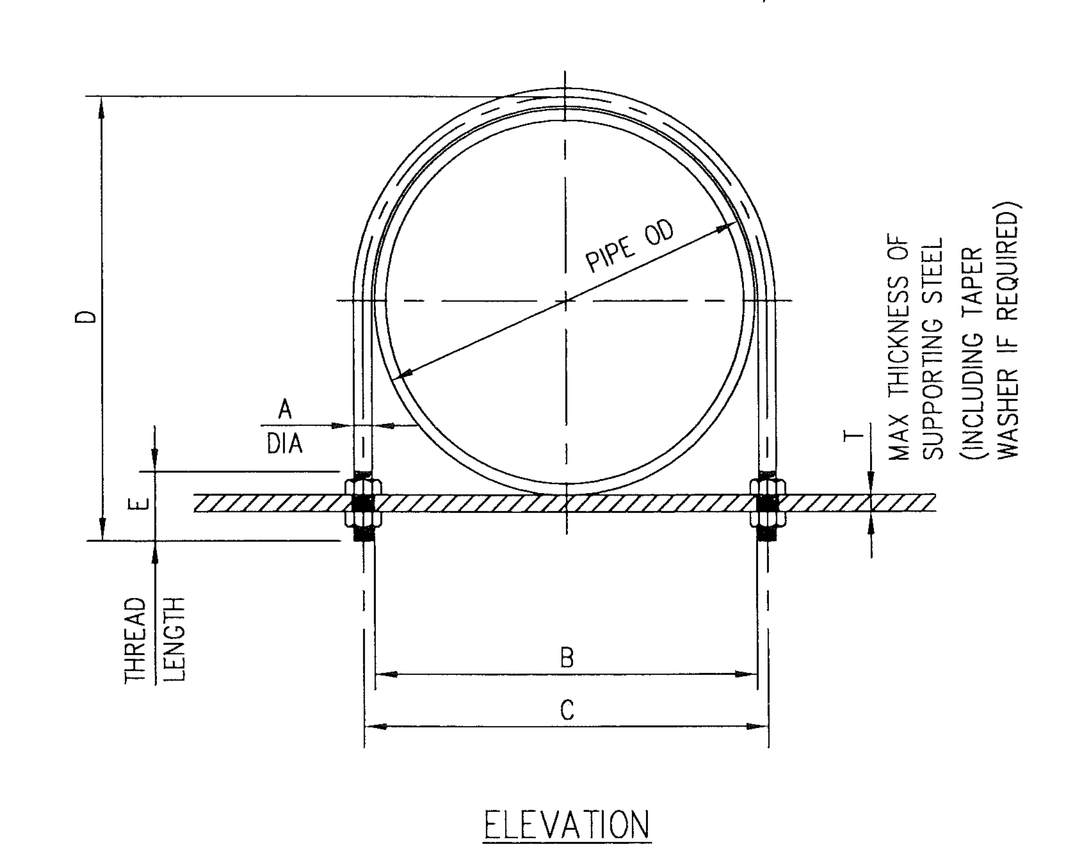
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Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		11.85	44.40	17.40				
Weight (Kgs)		4.74	27.53	15.49				
Total Weight (Kgs)								47.760

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PS-001 & 002	1	T10	2	24	48	925	21	125	700	125		
	2	T12	2	12	24	725	11	200	530			
	3	T8	2	3	6	1975	51	450	450			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



PIPE GUIDE DESIGNATION	NOMINAL PIPE SIZE INCHES	NOMINAL PIPE SIZE MM	PIPE OD	DIMENSIONS A	B	C	D	E	T	Nos. REQD.
UB-0.5	½"	15	21.3	8	32	40	45	30	10	–
UB-0.75	¾"	20	26.7	8	37	45	55	35	10	–
UB-1	1"	25	33.4	8	42	50	60	35	10	–
UB-1.5	1½"	40	48.3	10	55	65	85	45	16	–
UB-2	2"	50	60.3	10	70	80	100	45	16	7
UB-3	3"	80	88.9	16	94	110	140	60	19	2
UB-4	4"	100	114.3	16	124	140	165	60	19	3
UB-6	6"	150	168.3	20	175	195	225	70	19	–
UB-8	8"	200	219.1	20	230	250	275	70	19	–
UB-10	10"	250	273.0	20	285	305	335	75	22	–
UB-12	12"	300	323.9	20	335	355	385	75	22	–
UB-14	14"	350	355.6	24	366	390	425	80	22	–
UB-16	16"	400	406.4	24	416	440	475	80	22	–
UB-18	18"	450	457.0	24	471	495	525	80	22	–
UB-20	20"	500	508.0	24	521	545	575	80	22	–
UB-24	24"	600	610.0	24	621	645	675	80	22	–
UB-28	28"	700	711.2	24	721	745	775	80	22	–
UB-30	30"	750	762.0	24	771	795	825	80	22	–

MATERIAL GUIDE

BAR SIZE	BAR SAP No.	NUTS SIZE	NUTS SAP No.
8	1000080335	M8	1000063795
10	1000062586	M10	1000063796
16	1000062588	M16	1000063798
20	N.A.	M20	1000063799
24	N.A.	M24	1000120055

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	TEAML.	J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB		APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

CHECKED — P D O APPROVAL

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3818-001-A3-D – TYPE 818]

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. EACH BOLT TO BE SUPPLIED WITH 2 NUTS & 2 LOCKNUTS.
3. MATERIAL–BOLTS TO BS EN 10025 GR S275 JR NUTS TO ISO 898/11 GR 8
4. U-BOLT CORROSION PROTECTION SHALL COMPLY WITH SP-1246-2

NOTES

DESCRIPTION | AREA | S | SERIAL | SH. | P | S — DRAWING NUMBER

REFERENCE DRAWINGS

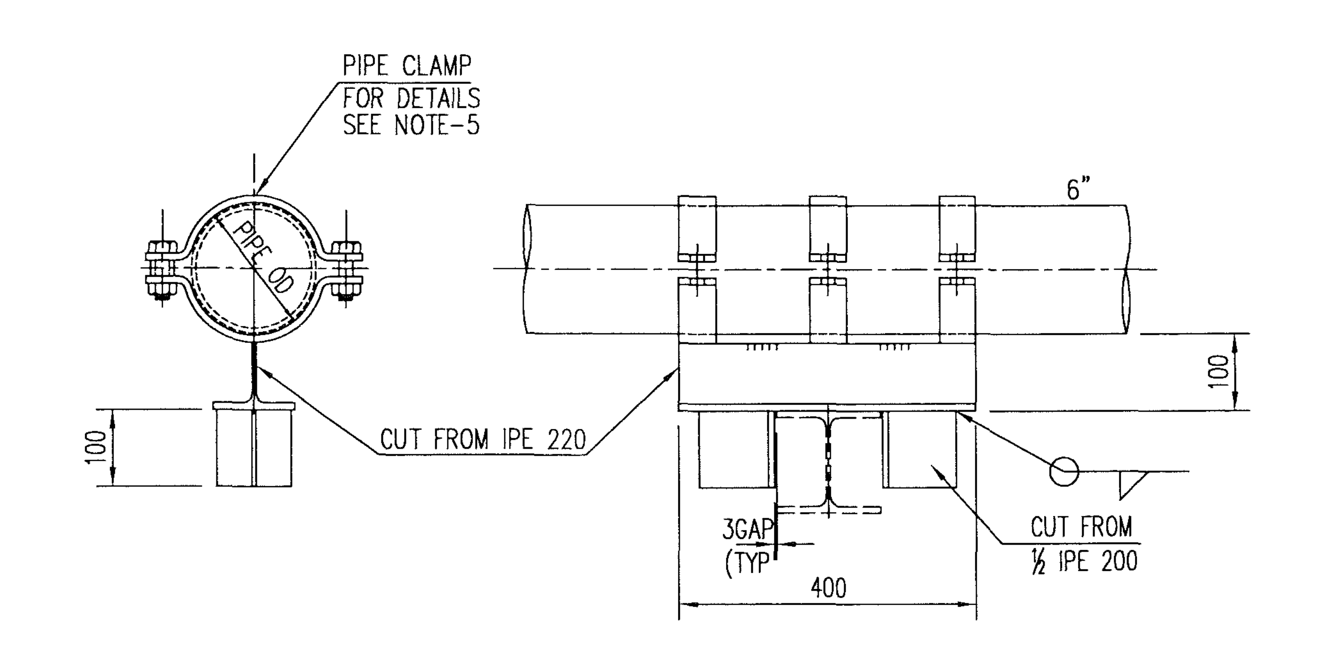
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : 'U' BOLT (PIPE NOT GRIPPED) DETAILS

SCALE : – CAD DRAWING

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	064	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842064_DQ.dwg-GCS-27/02/11-10:02:28



PS-002, 008, 013 & 036

SUPPORT NUMBER	REFERENCE DRAWING	PIPE SIZE	NUMBER REQD.
PS-002	NIM-3-2142-001-DQ-1	6"	1
PS-008	NIM-3-2141-001-DQ-1		
PS-013	NIM-3-2141-001-DQ-1		
PS-036	NIM-3-2140-001-DQ-1		

M T O			
DESCRIPTION	QUANTITY	UNITS	SAP No.
IPE 220	1.6	m	1000165322
IPE 200	0.80	m	1000080437
HE 300 B	–	m	1000062639
10THK. PLATE	–	m^2	1000062608

K. Munes
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APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	27.02.11	GCS	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT PIPE SIZE.
2. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR.
3. ALL WELDS TO BE 6mm NON PENETRATING CFW NO HOLES IN LINE PIPE.
4. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2
5. REFER STD-2-3812-001 FOR PIPE CLAMP TYPE-812

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPE SUPPORTS–INDEX SHEET	NIM	2	1842	028	DQ	3
PIPE CLAMP DETAIL	NIM	2	2184	071	DQ	3

SCALE : NTS — CAD DRAWING

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS — NO. 16

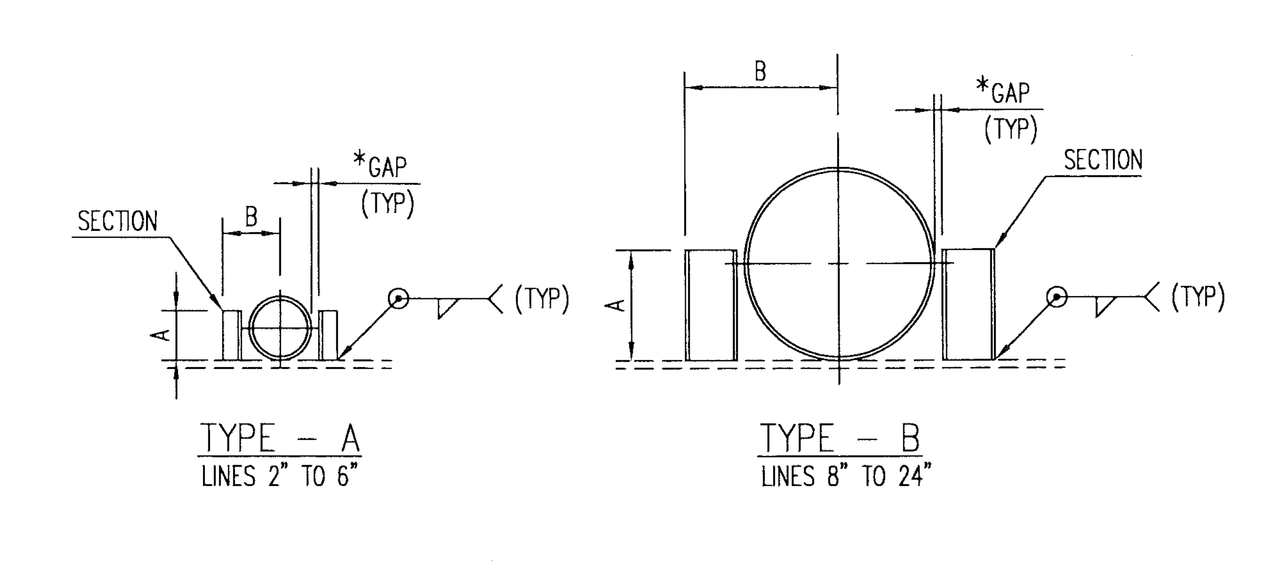
DRWG.TYPE : PIPE SUPPORTS –

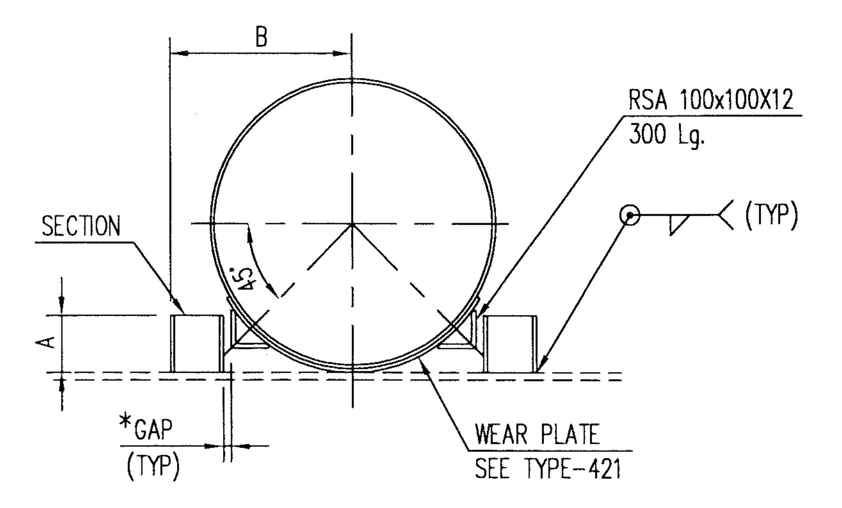
DESCRIPTION : PIPE CLAMP WITH SHOE AND LINE STOP DETAILS

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	065	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842065_DQ.dwg-GCS-27/02/11-10:02:29





* - GAP SHALL BE AS PER PIPING GA. IF NOT SPECIFIED IT SHALL BE 2mm

FOR LOCATION REFER PIPING GA.

PIPE GUIDE DESIGNATION	NOMINAL PIPE SIZE INCHES	NOMINAL PIPE SIZE MM	PIPE OD	DIMENSIONS A	DIMENSIONS B	SECTION	Nos. REQD.
PG-2	2"	50	60.3	55	82	RSA 50x50x6	6
PG-3	3"	80	88.9	80	97	RSA 50x50x6	-
PG-4	4"	100	114.3	80	110	RSA 50x50x6	3
PG-6	6"	150	168.3	110	137	RSA 50x50x6	5
PG-8	8"	200	219.1	160	212	RSC 100	-
PG-10	10"	250	273.0	160	239	RSC 100	-
PG-12	12"	300	323.9	230	264	RSC 100	-
PG-14	14"	350	355.6	230	280	RSC 100	-
PG-16	16"	400	406.4	230	306	RSC 100	-
PG-18	18"	450	457.0	260	371	RSC 140	-
PG-20	20"	500	508.0	290	396	RSC 140	-
PG-24	24"	600	610.0	340	447	RSC 140	-
PG-30	30"	750	762.0	150	464	RSC 140	-

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
RSC 140	-	m	1000080366
RSC 100	-	m	1000145612
RSA 100x100x12	-	m	1000142036
RSA 50x50x6	2.20	m	1000062629

K. Munes
TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RR	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: **C31/0606** PROJ. NO.: **PAIP00405**

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3604-001-A3-C - TYPE 604]

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT PIPE SIZE
2. ALL STEEL WORK EXCEPT REINFORCING PLATE TO TO BS EN 10025 GR S275 JR
3. ALL CONNECTIONS TO BE MADE USING 6mm CFW.
4. STEELWORK CORROSION PROTECTION SHALL COMPLY WITH SP-1246-2

NOTES

DESCRIPTION	AREA	S	SERIAL	SH.	P	S

DRAWING NUMBER

REFERENCE DRAWINGS

SCALE : NTS — CAD DRAWING

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS — NO. 16

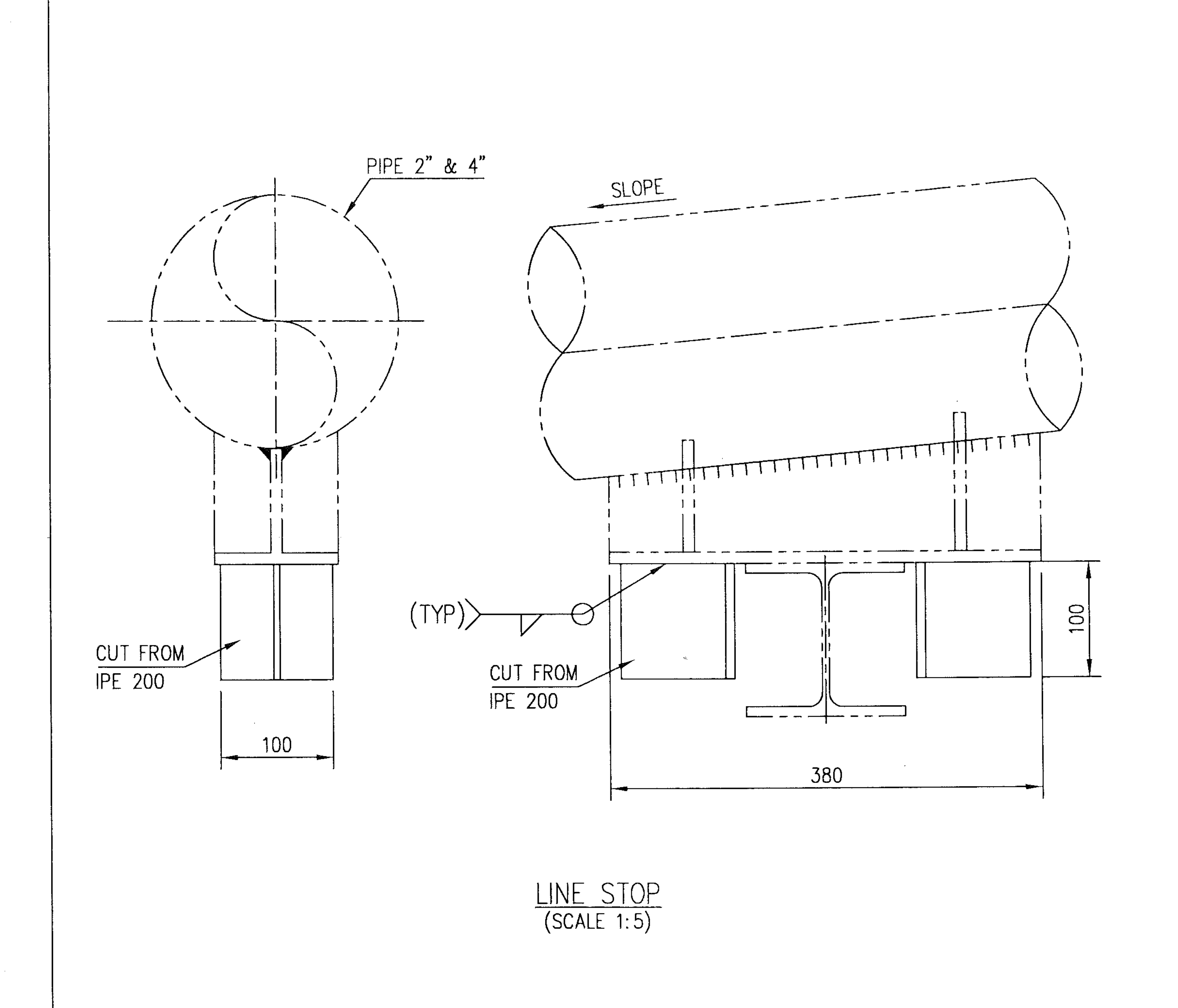
DRWG.TYPE : PIPE SUPPORTS

DESCRIPTION : PIPE GUIDE DETAILS

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	066	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842066_DQ.dwg-GCS-27/02/11-10:02:29



SHOE NUMBER	REFERENCE DRAWING	PIPE SIZE	SLOPE	LINE STOP	NUMBER REQD.
PS-038	NIM-3-2140-001-DQ-1	2"	1:200	LS-2	1
PS-046	NIM-3-2140-001-DQ-1	4"	1:200	LS-4	1

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
IPE 200	0.40	m	1000080437
HE 220 A		m	1000165618
HE 300 A		m	1000165651
10Thk. PLATE		m^2	1000062608

K. Muners
TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB	W.	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
O	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: **C31/0606** PROJ. NO.: **PAIP00405**

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE : NTS — CAD DRAWING 0 1 2 3 4 5 6 7

شركة تنمية نفط عمان
Petroleum Development Oman

AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : LINE STOP DETAILS FOR PS-038 & 046

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	1842	067	DQ	3	A

NOTES

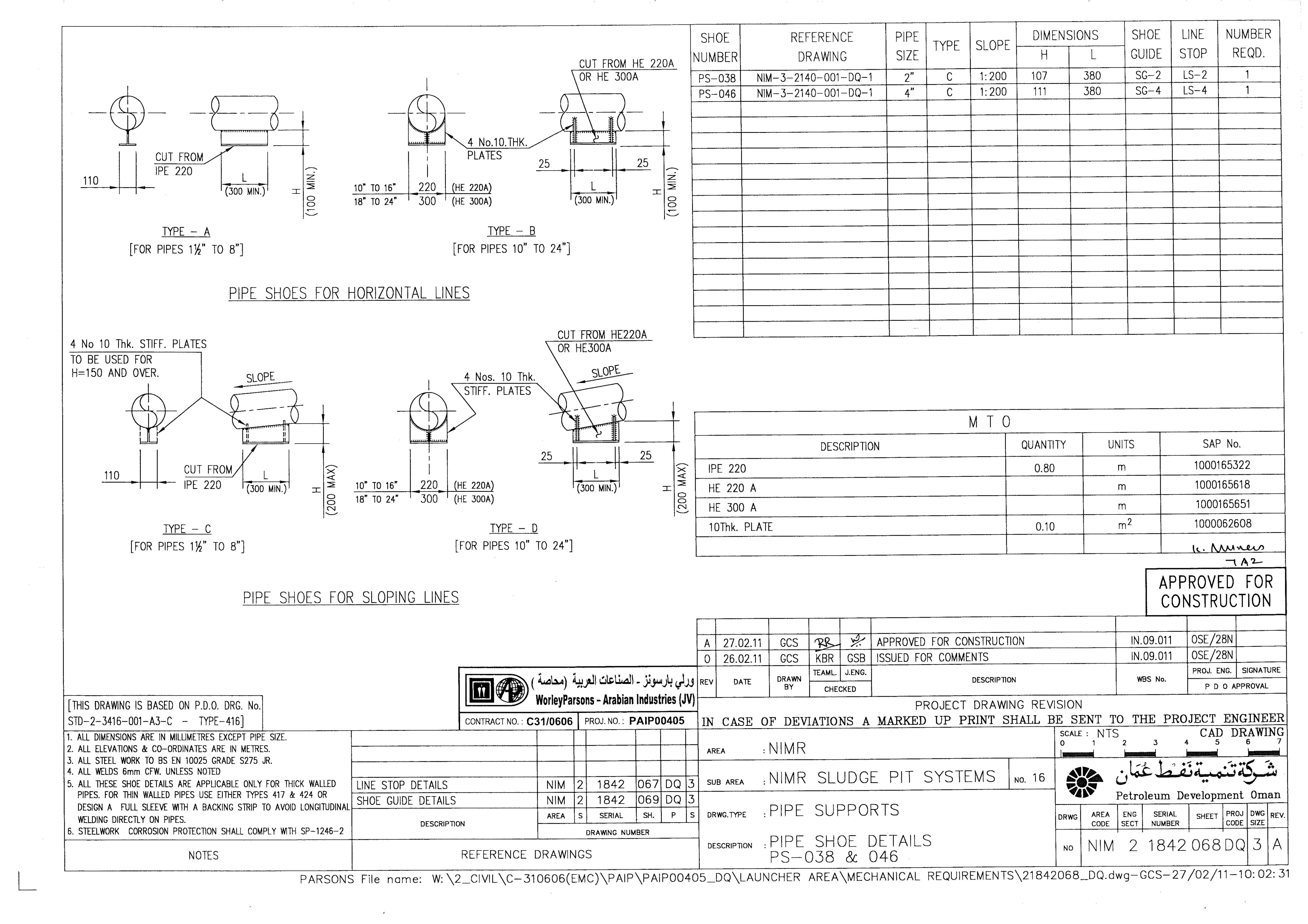
1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT PIPE SIZE.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR.
4. ALL WELDS 6mm CFW. UNLESS NOTED
5. ALL THESE SHOE DETAILS ARE APPLICABLE ONLY FOR THICK WALLED PIPES. FOR THIN WALLED PIPES USE EITHER TYPES 417 & 424 OR DESIGN A FULL SLEEVE WITH A BACKING STRIP TO AVOID LONGITUDINAL WELDING DIRECTLY ON PIPES.
6. STEELWORK CORROSION PROTECTION SHALL COMPLY WITH SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S

DRAWING NUMBER

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842067_DQ.dwg-GCS-27/02/11-10:02:30



SHOE NUMBER	REFERENCE DRAWING	PIPE SIZE	TYPE	SLOPE	DIMENSIONS H	DIMENSIONS L	SHOE GUIDE	LINE STOP	NUMBER REQD.
PS-038	NIM-3-2140-001-DQ-1	2"	C	1:200	107	380	SG-2	LS-2	1
PS-046	NIM-3-2140-001-DQ-1	4"	C	1:200	111	380	SG-4	LS-4	1

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
IPE 220	0.80	m	1000165322
HE 220 A		m	1000165618
HE 300 A		m	1000165651
10Thk. PLATE	0.10	m^2	1000062608

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RR		APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3416-001-A3-C – TYPE-416]

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT PIPE SIZE.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR.
4. ALL WELDS 6mm CFW. UNLESS NOTED
5. ALL THESE SHOE DETAILS ARE APPLICABLE ONLY FOR THICK WALLED PIPES. FOR THIN WALLED PIPES USE EITHER TYPES 417 & 424 OR DESIGN A FULL SLEEVE WITH A BACKING STRIP TO AVOID LONGITUDINAL WELDING DIRECTLY ON PIPES.
6. STEELWORK CORROSION PROTECTION SHALL COMPLY WITH SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
LINE STOP DETAILS	NIM	2	1842	067	DQ	3
SHOE GUIDE DETAILS	NIM	2	1842	069	DQ	3

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16

DRWG.TYPE : PIPE SUPPORTS

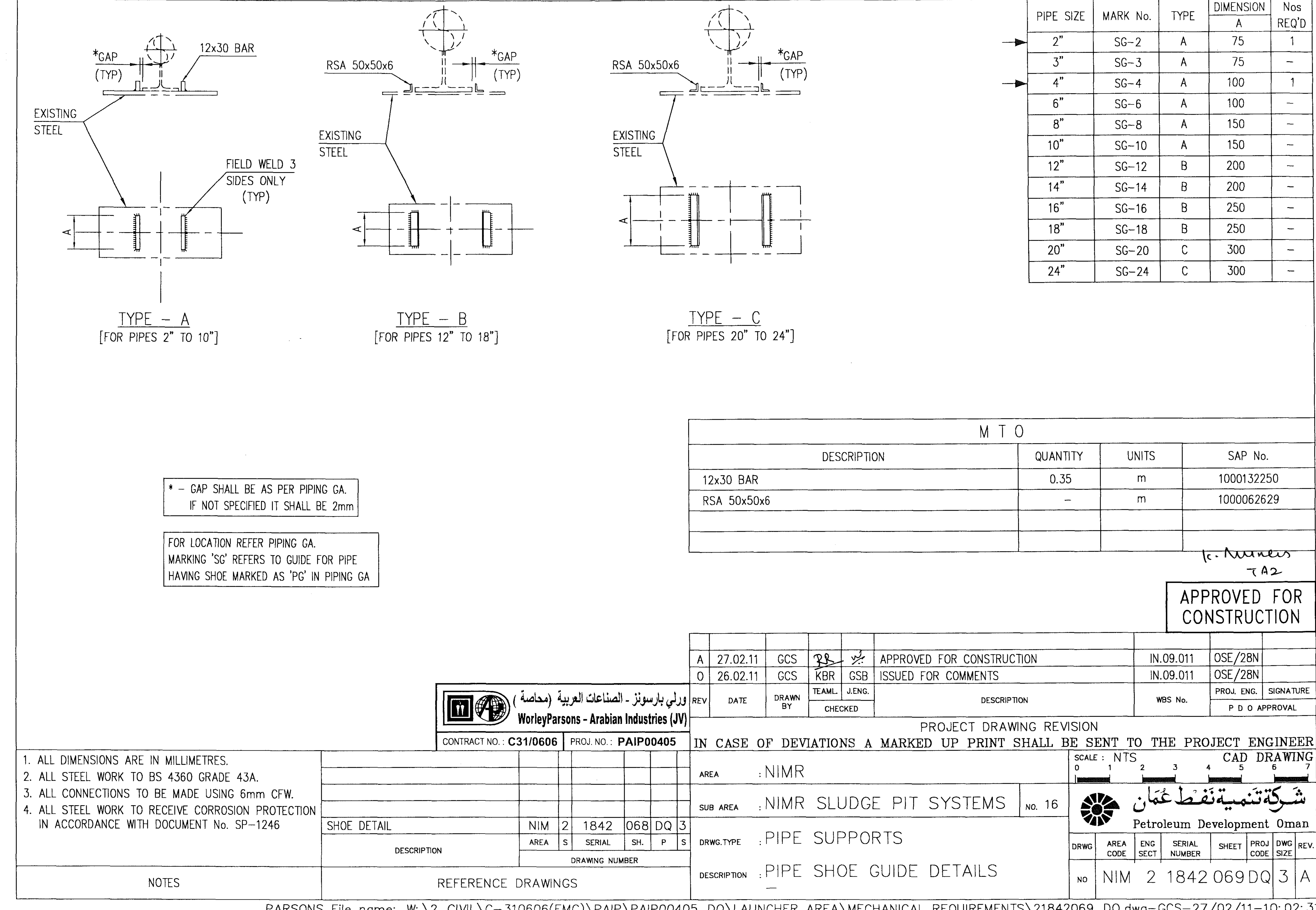
DESCRIPTION : PIPE SHOE DETAILS PS–038 & 046

SCALE : NTS CAD DRAWING

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	068	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842068_DQ.dwg-GCS-27/02/11-10:02:31



PIPE SIZE	MARK No.	TYPE	DIMENSION A	Nos REQ'D
2"	SG-2	A	75	1
3"	SG-3	A	75	–
4"	SG-4	A	100	1
6"	SG-6	A	100	–
8"	SG-8	A	150	–
10"	SG-10	A	150	–
12"	SG-12	B	200	–
14"	SG-14	B	200	–
16"	SG-16	B	250	–
18"	SG-18	B	250	–
20"	SG-20	C	300	–
24"	SG-24	C	300	–

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
12x30 BAR	0.35	m	1000132250
RSA 50x50x6	–	m	1000062629

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	P D O APPROVAL PROJ. ENG.	P D O APPROVAL SIGNATURE
A	27.02.11	GCS	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

NOTES

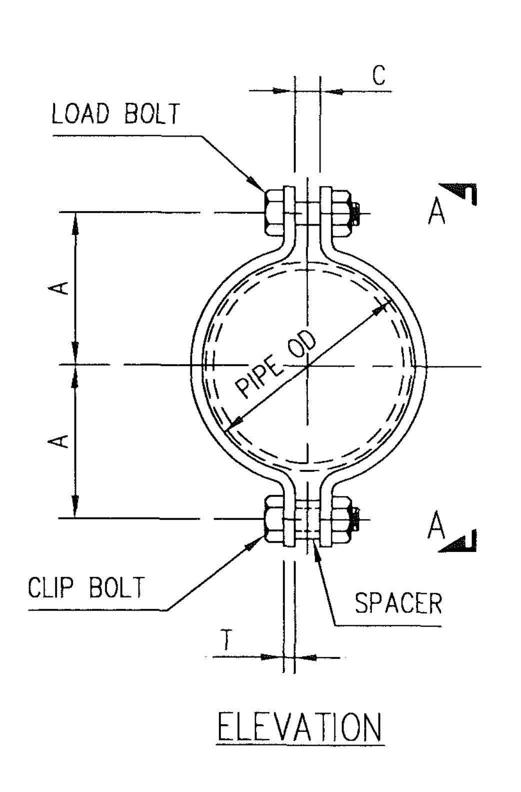
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL STEEL WORK TO BS 4360 GRADE 43A.
3. ALL CONNECTIONS TO BE MADE USING 6mm CFW.
4. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246

REFERENCE DRAWINGS

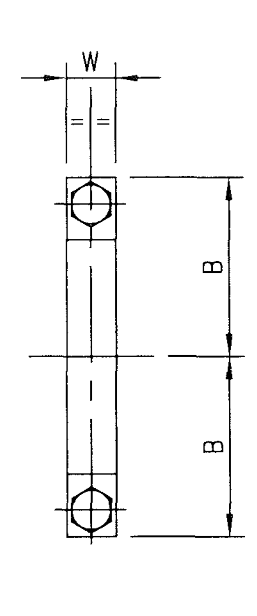
DESCRIPTION	AREA	S	SERIAL	SH.	P	S
SHOE DETAIL	NIM	2	1842	068	DQ	3

AREA: NIMR
SUB AREA: NIMR SLUDGE PIT SYSTEMS — NO. 16
DRWG. TYPE: PIPE SUPPORTS
DESCRIPTION: PIPE SHOE GUIDE DETAILS

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1842	069	DQ	3	A



ELEVATION



VIEW A–A

PIPE GUIDE DESIGNATION	NOMINAL PIPE SIZE INCHES	NOMINAL PIPE SIZE MM	PIPE OD	DIMENSIONS A	DIMENSIONS B	DIMENSIONS C	DIMENSIONS W x T	BOLTS DIA x Lg.	Nos. REQD.
PC-0.5	½"	15	21.3	32	51	12	25 x 5	M12 x 45	–
PC-0.75	¾"	20	26.7	32	51	12	25 x 5	M12 x 45	–
PC-1	1"	25	33.4	38	57	12	25 x 5	M12 x 45	–
PC-1.5	1½"	40	48.3	50	70	16	40 x 6	M12 x 45	–
PC-2	2"	50	60.3	58	85	16	40 x 6	M12 x 45	–
PC-3	3"	80	88.9	85	110	20	40 x 6	M20 x 65	–
PC-4	4"	100	114.3	96	127	24	60 x 10	M24 x 75	–
→ PC-6	6"	150	168.3	135	175	28	65 x 12	M24 x 75	12
PC-8	8"	200	219.1	160	200	28	65 x 12	M24 x 75	–
PC-10	10"	250	273.0	200	235	34	65 x 15	M30 x 100	–
PC-12	12"	300	323.9	235	280	34	120 x 20	M30 x 100	–
PC-14	14"	350	355.6	255	305	40	120 x 20	M36 x 120	–
PC-16	16"	400	406.4	280	330	40	120 x 20	M36 x 120	–
PC-18	18"	450	457.0	305	360	40	120 x 20	M36 x 120	–
PC-20	20"	500	508.0	330	385	40	120 x 20	M36 x 120	–
PC-24	24"	600	610.0	395	445	40	120 x 20	M36 x 120	–
PC-30	30"	750	762.0	470	520	40	120 x 20	M36 x 120	–
PC-32	32"	800	812.8	500	550	40	120 x 20	M36 x 120	–
PC-36	36"	900	914.4	550	600	40	120 x 20	M36 x 120	–

MATERIAL GUIDE

BOLTS SIZE	BOLTS SAP No.	FLATS SIZE	FLATS SAP No.
M12 x 45	1000062908	25 x 5	1000132190
M20 x 65	1000062911	40 x 6	1000080324
M24 x 75	1000099912	60 x 10	1000132245
M30 x 100	1000099927	65 x 12	1000132279
M30 x 120	1000099928	65 x 15	1000132316
M36 x 120	1000099948	120 x 20	1000132382

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE (P D O APPROVAL)
A	27.02.11	GCS	RB	[illegible]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3812-001-A3-D – TYPE 812]

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. EACH CLAMP TO BE SUPPLIED COMPLETE WITH 2 BOLTS & NUTS AND 1 TUBULAR DISTANCE PIECE.
3. MATERIAL–BAR TO BS EN 10025 GR S275 JR BOLTS TO ISO 898/1 GR4.6, NUTS TO ISO 898/2 GR4, CLAMP SPACER–CARBON STEEL
4. PIPE CLIP CORROSION PROTECTION SHALL COMPLY WITH SP–1246–2

NOTES

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
	DRAWING NUMBER					

REFERENCE DRAWINGS

SCALE : NTS — CAD DRAWING

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS — NO. 16

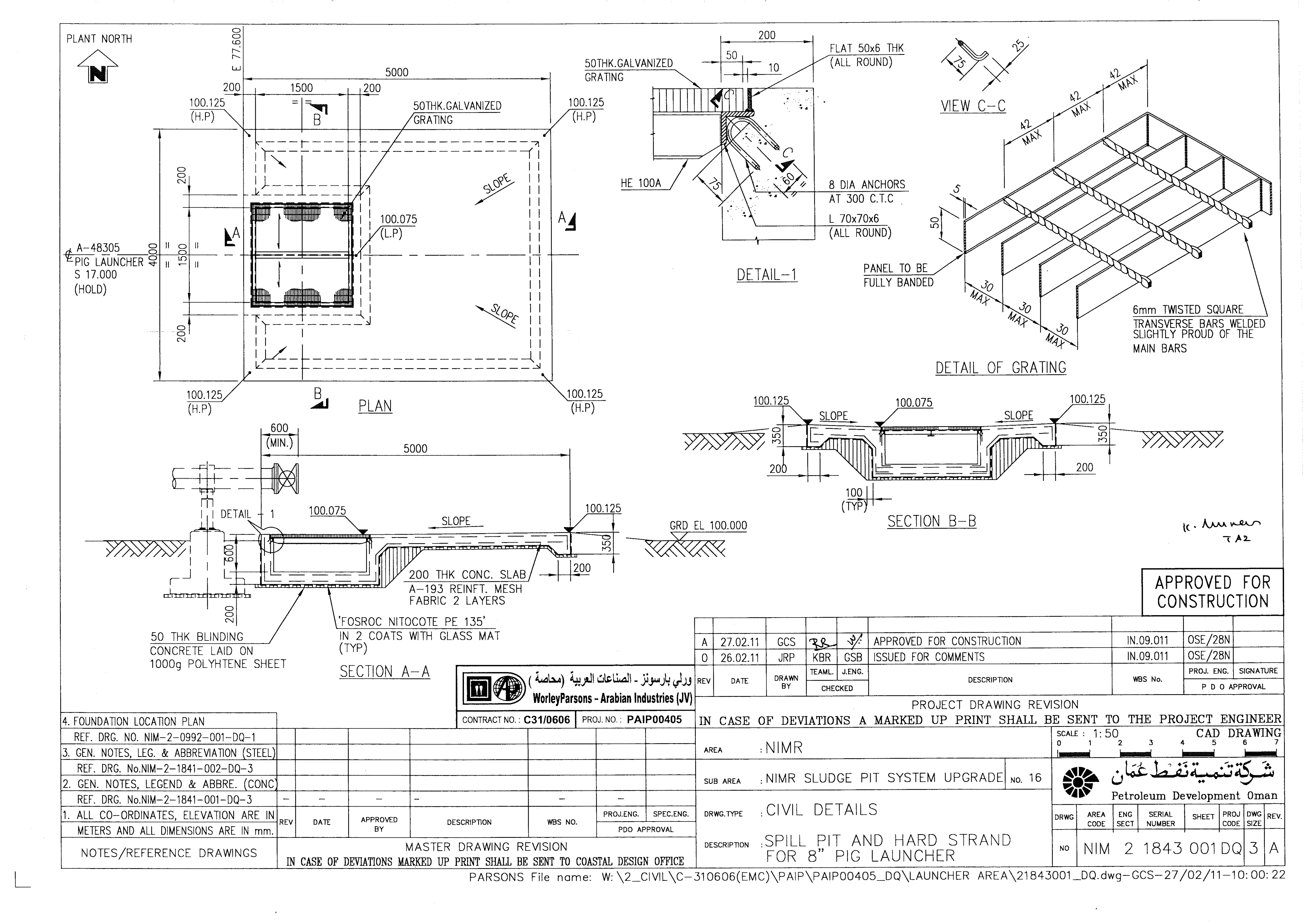
DRWG.TYPE : PIPE SUPPORTS

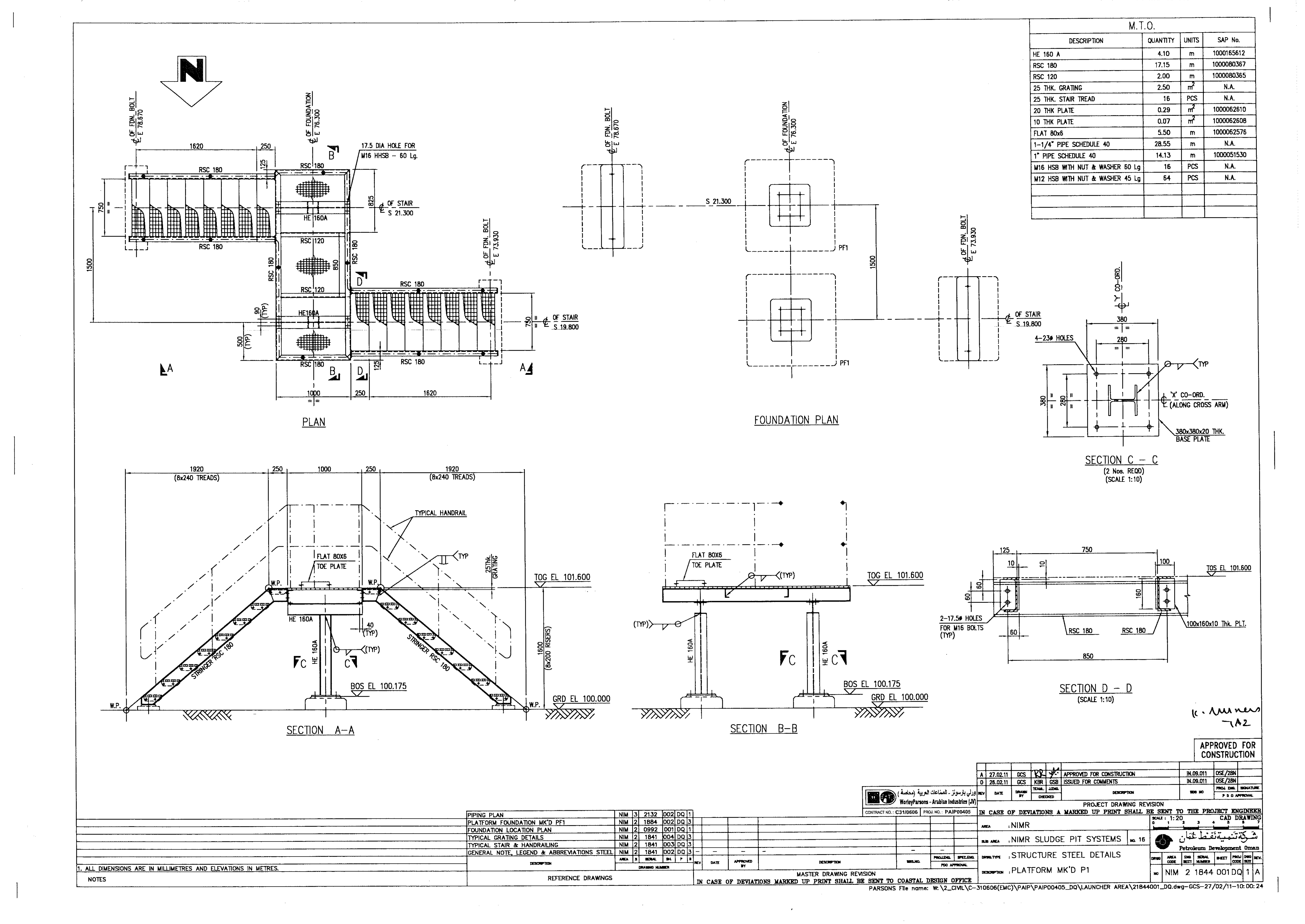
DESCRIPTION : PIPE CLIP (HEAVY) DETAILS

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	1842	070	DQ	3	A

PARSONS File name: W:\2_CIVIL\C–310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21842070_DQ.dwg–GCS–27/02/11–10:02:32


PLANT NORTH
N
E 77.600
5000
200
1500
200
100.125
(H.P)
B
50THK.GALVANIZED
GRATING
100.125
(H.P)
SLOPE
100.075
(L.P)
A
A
A-48305
PIG LAUNCHER
S 17.000
(HOLD)
4000
1500
200
200
SLOPE
100.125
(H.P)
B
PLAN
100.125
(H.P)
200
50
10
50THK.GALVANIZED
GRATING
FLAT 50x6 THK
(ALL ROUND)
C
C
HE 100A
75
60
8 DIA ANCHORS
AT 300 C.T.C
L 70x70x6
(ALL ROUND)
DETAIL-1
75
25
VIEW C-C
42 MAX
42 MAX
42 MAX
5
50
PANEL TO BE
FULLY BANDED
30 MAX
30 MAX
30 MAX
6mm TWISTED SQUARE
TRANSVERSE BARS WELDED
SLIGHTLY PROUD OF THE
MAIN BARS
DETAIL OF GRATING
100.125
SLOPE
100.075
SLOPE
100.125
350
350
200
200
100
(TYP)
SECTION B-B
600
(MIN.)
5000
DETAIL - 1
100.075
SLOPE
100.125
350
GRD EL 100.000
600
200
200 THK CONC. SLAB
A-193 REINFT. MESH
FABRIC 2 LAYERS
200
50 THK BLINDING
CONCRETE LAID ON
1000g POLYHTENE SHEET
'FOSROC NITOCOTE PE 135'
IN 2 COATS WITH GLASS MAT
(TYP)
SECTION A-A
APPROVED FOR
CONSTRUCTION
A | 27.02.11 | GCS | | | APPROVED FOR CONSTRUCTION | IN.09.011 | OSE/28N
0 | 26.02.11 | JRP | KBR | GSB | ISSUED FOR COMMENTS | IN.09.011 | OSE/28N
REV | DATE | DRAWN BY | TEAML. | J.ENG. | CHECKED | DESCRIPTION | WBS No. | PROJ. ENG. | SIGNATURE | P D O APPROVAL
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
4. FOUNDATION LOCATION PLAN
REF. DRG. NO. NIM-2-0992-001-DQ-1
3. GEN. NOTES, LEG. & ABBREVIATION (STEEL)
REF. DRG. No.NIM-2-1841-002-DQ-3
2. GEN. NOTES, LEGEND & ABBRE. (CONC)
REF. DRG. No.NIM-2-1841-001-DQ-3
1. ALL CO-ORDINATES, ELEVATION ARE IN
METERS AND ALL DIMENSIONS ARE IN mm.
NOTES/REFERENCE DRAWINGS
REV | DATE | APPROVED BY | DESCRIPTION | WBS NO. | PROJ.ENG. | SPEC.ENG. | PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEM UPGRADE NO. 16
DRWG.TYPE : CIVIL DETAILS
DESCRIPTION : SPILL PIT AND HARD STRAND FOR 8" PIG LAUNCHER
SCALE : 1:50
0 1 2 3 4 5 6 7
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO | AREA CODE | ENG SECT | SERIAL NUMBER | SHEET | PROJ CODE | DWG SIZE | REV.
NIM | 2 | 1843 | 001 | DQ | 3 | A
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21843001_DQ.dwg-GCS-27/02/11-10:00:22



M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 160 A	4.10	m	1000165612
RSC 180	17.15	m	1000080367
RSC 120	2.00	m	1000080365
25 THK. GRATING	2.50	m^2	N.A.
25 THK. STAIR TREAD	16	PCS	N.A.
20 THK PLATE	0.29	m^2	1000062610
10 THK PLATE	0.07	m^2	1000062608
FLAT 80x6	5.50	m	1000062576
1-1/4" PIPE SCHEDULE 40	28.55	m	N.A.
1" PIPE SCHEDULE 40	14.13	m	1000051530
M16 HSB WITH NUT & WASHER 60 Lg	16	PCS	N.A.
M12 HSB WITH NUT & WASHER 45 Lg	64	PCS	N.A.

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	R
PIPING PLAN	NIM	3	2132	002	DQ	1
PLATFORM FOUNDATION MK'D PF1	NIM	2	1884	002	DQ	3
FOUNDATION LOCATION PLAN	NIM	2	0992	001	DQ	1
TYPICAL GRATING DETAILS	NIM	2	1841	004	DQ	3
TYPICAL STAIR & HANDRAILING	NIM	2	1841	003	DQ	3
GENERAL NOTE, LEGEND & ABBREVIATIONS STEEL	NIM	2	1841	002	DQ	3

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

REV	DATE	DRAWN BY	TEAM	J.ENG.	DESCRIPTION	WBS NO	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	KR	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

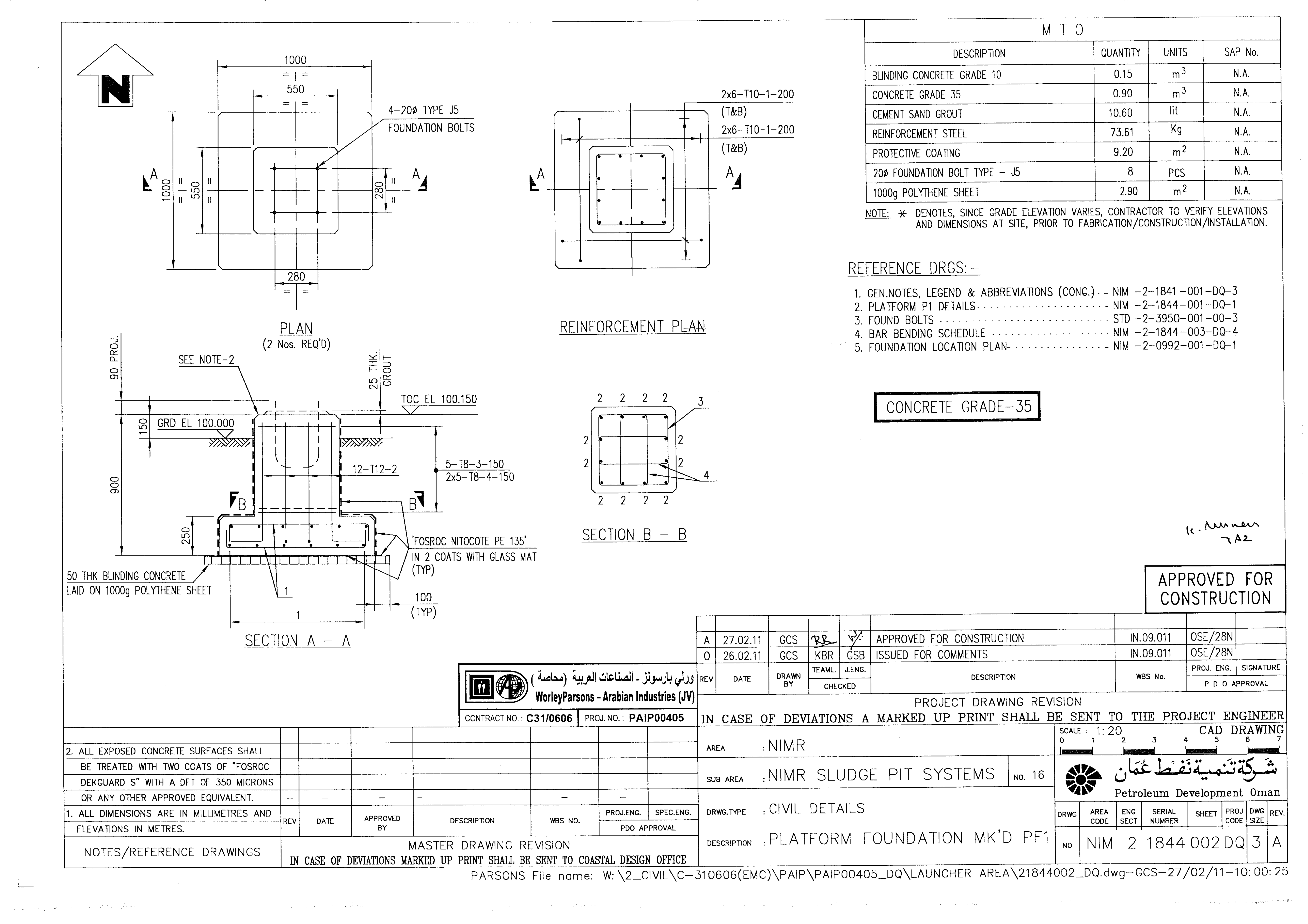
SCALE: 1:20 CAD DRAWING

AREA: NIMR
SUB AREA: NIMR SLUDGE PIT SYSTEMS NO. 16
DRWG. TYPE: STRUCTURE STEEL DETAILS
DESCRIPTION: PLATFORM MK'D P1

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Petroleum Development Oman

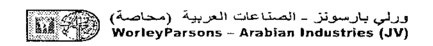
DRWG NO: NIM 2 1844 001 DQ 1 A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21844001_DQ.dwg-GCS-27/02/11-10:00:24



M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE GRADE 10	0.15	m^3	N.A.
CONCRETE GRADE 35	0.90	m^3	N.A.
CEMENT SAND GROUT	10.60	lit	N.A.
REINFORCEMENT STEEL	73.61	Kg	N.A.
PROTECTIVE COATING	9.20	m^2	N.A.
20ø FOUNDATION BOLT TYPE - J5	8	PCS	N.A.
1000g POLYTHENE SHEET	2.90	m^2	N.A.



BAR BENDING SCHEDULE

JOB NO.:	**PAIP00238**	**Document No.:**	NIM-2-1844-003-DQ-4
PART ID.:	**NIMR SLUDGE PIT SYSTEMS PLATFORM-P1**	**Revision No.:**	A
		Prepared by:	GCS
		Checked by:	PNG RR
REF. DWG NO.:	**NIM-2-1844-002-DQ-3**	Date:	27.02.11

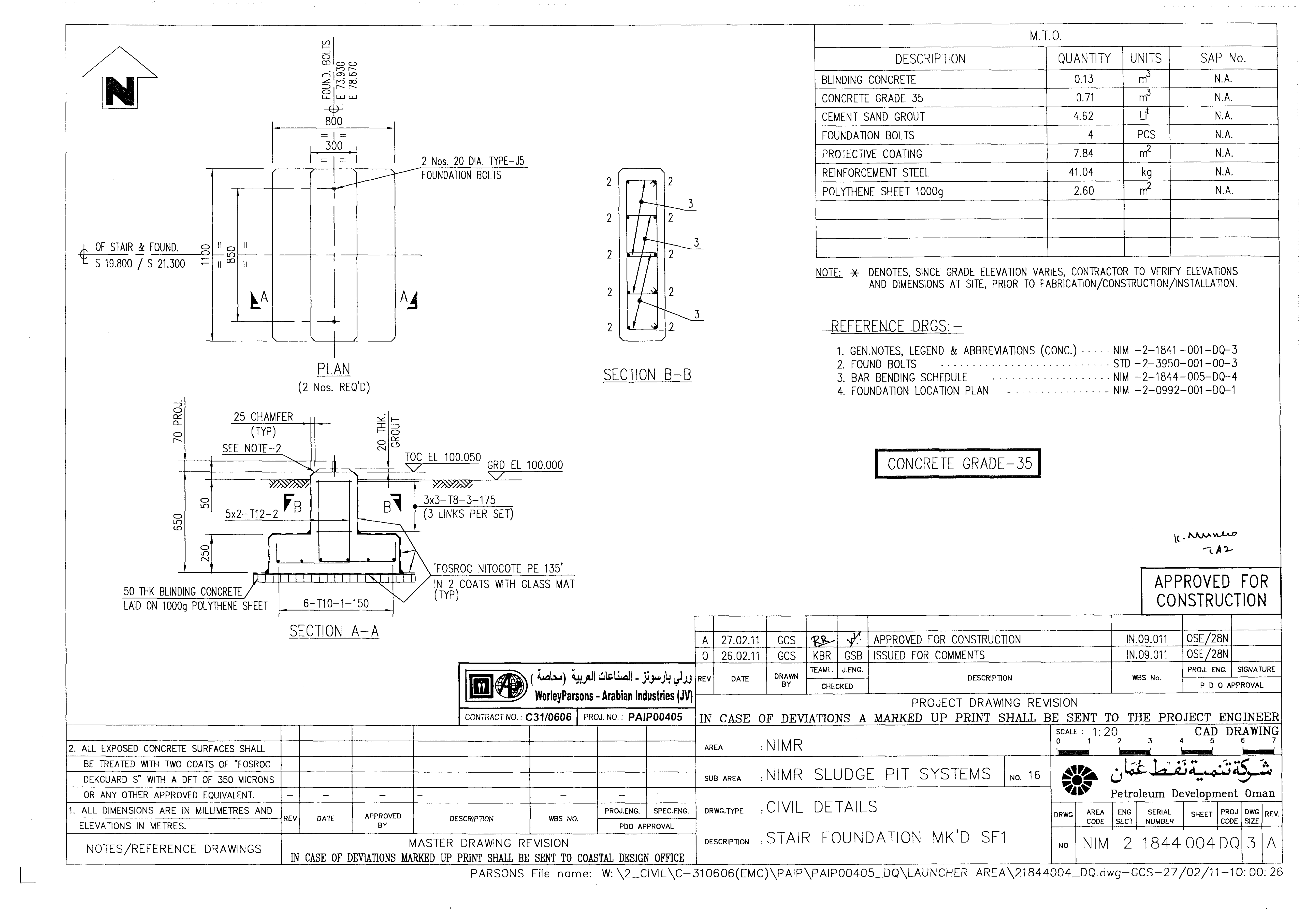
K. Muneer
7A2

Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		48.25	54.00	23.40				
Weight (Kgs)		19.30	33.48	20.83				
Total Weight (Kgs)								73.610

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PLATFORM-P1	1	T10	2	24	48	1125	21	125	900	125		
	2	T12	2	12	24	975	11	200	780			
	3	T8	2	5	10	1975	51	450	450			
	4	T8	2	10	20	1425	51	450	175			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	0.13	m^3	N.A.
CONCRETE GRADE 35	0.71	m^3	N.A.
CEMENT SAND GROUT	4.62	Lt	N.A.
FOUNDATION BOLTS	4	PCS	N.A.
PROTECTIVE COATING	7.84	m^2	N.A.
REINFORCEMENT STEEL	41.04	kg	N.A.
POLYTHENE SHEET 1000g	2.60	m^2	N.A.

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

REFERENCE DRGS:-

1. GEN.NOTES, LEGEND & ABBREVIATIONS (CONC.) ..... NIM -2-1841-001-DQ-3
2. FOUND BOLTS .... STD -2-3950-001-00-3
3. BAR BENDING SCHEDULE .... NIM -2-1844-005-DQ-4
4. FOUNDATION LOCATION PLAN -........ NIM -2-0992-001-DQ-1

CONCRETE GRADE-35

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)

WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

NOTES/REFERENCE DRAWINGS

2. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.

REV	DATE	APPROVED BY	DESCRIPTION	WBS NO.	PROJ.ENG.	SPEC.ENG.
-	-	-	-	-	-	

PDO APPROVAL

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS NO. 16

DRWG.TYPE : CIVIL DETAILS

DESCRIPTION : STAIR FOUNDATION MK'D SF1

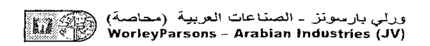
SCALE : 1:20 CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NIM	2	1844	004	DQ	3	A	

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21844004_DQ.dwg-GCS-27/02/11-10:00:26



BAR BENDING SCHEDULE

JOB NO.:	PAIP00238	**Document No.:**	NIM-2-1844-005-DQ-4
PART ID.:	NIMR SLUDGE PIT SYSTEMS STAIR FOUNDATION	**Revision No.:**	A
		Prepared by:	GCS
		Checked by:	PNG
REF. DWG NO.:	NIM-2-1844-004-DQ-3	Date:	27.02.11

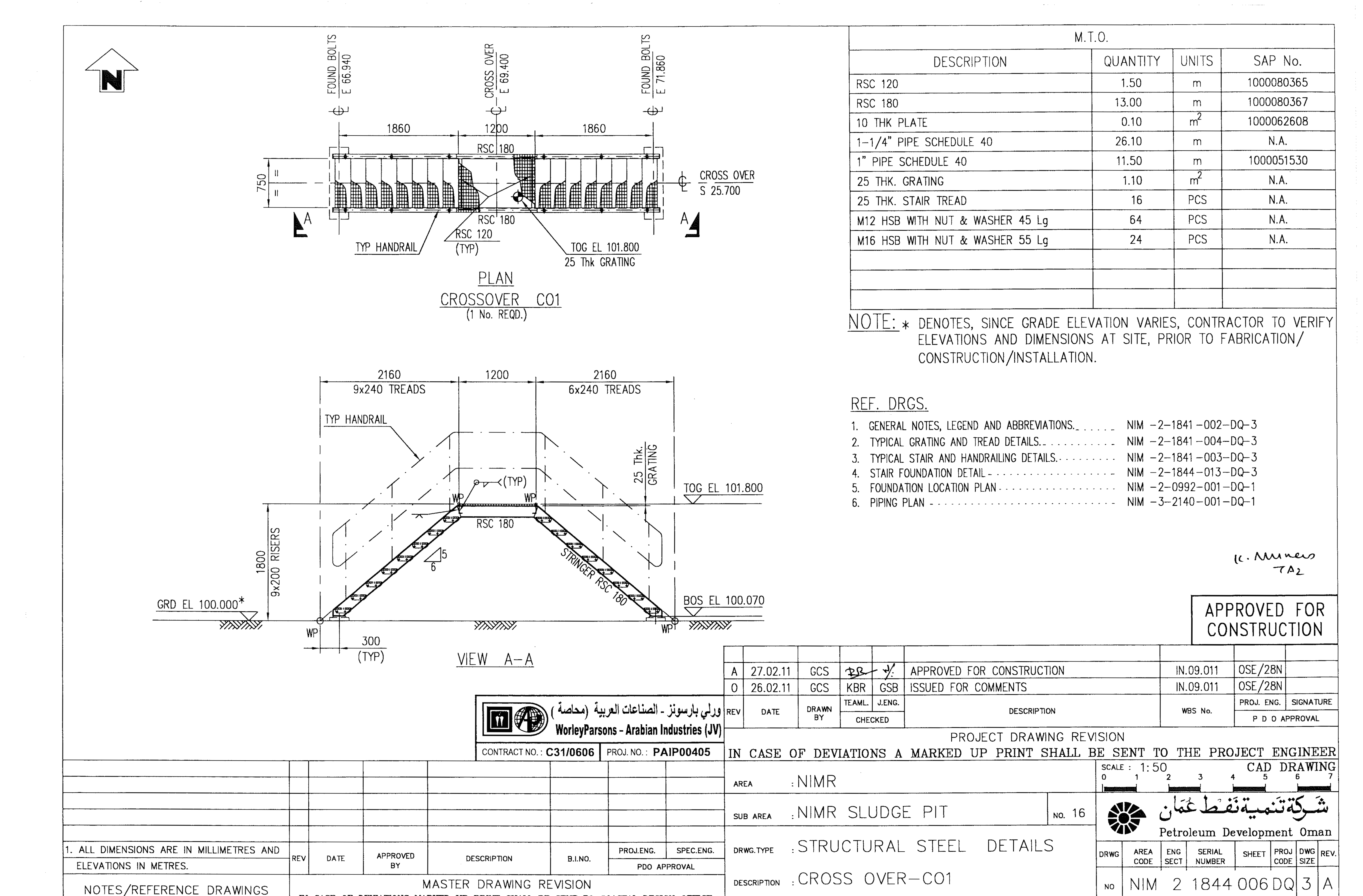
Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		28.80	15.30	22.50				
Weight (Kgs)		11.52	9.49	20.03				
Total Weight (Kgs)								41.040

K. Munnews
7A2

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
STAIR	1	T10	2	6	12	1275	21	150	1000	150		
FOUNDATION	2	T12	2	10	20	1125	21	150	450	550		
	3	T8	2	9	18	1600	51	520	200			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



M.T.O.			
DESCRIPTION	QUANTITY	UNITS	SAP No.
RSC 120	1.50	m	1000080365
RSC 180	13.00	m	1000080367
10 THK PLATE	0.10	m^2	1000062608
1-1/4" PIPE SCHEDULE 40	26.10	m	N.A.
1" PIPE SCHEDULE 40	11.50	m	1000051530
25 THK. GRATING	1.10	m^2	N.A.
25 THK. STAIR TREAD	16	PCS	N.A.
M12 HSB WITH NUT & WASHER 45 Lg	64	PCS	N.A.
M16 HSB WITH NUT & WASHER 55 Lg	24	PCS	N.A.

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/ CONSTRUCTION/INSTALLATION.

REF. DRGS.

1. GENERAL NOTES, LEGEND AND ABBREVIATIONS...... NIM -2-1841-002-DQ-3
2. TYPICAL GRATING AND TREAD DETAILS........... NIM -2-1841-004-DQ-3
3. TYPICAL STAIR AND HANDRAILING DETAILS......... NIM -2-1841-003-DQ-3
4. STAIR FOUNDATION DETAIL.................... NIM -2-1844-013-DQ-3
5. FOUNDATION LOCATION PLAN.................. NIM -2-0992-001-DQ-1
6. PIPING PLAN .... NIM -3-2140-001-DQ-1

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

AREA : NIMR
SUB AREA : NIMR SLUDGE PIT NO. 16
DRWG. TYPE : STRUCTURAL STEEL DETAILS
DESCRIPTION : CROSS OVER-C01

SCALE : 1:50 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NIM	2	1844	006		DQ	3	A

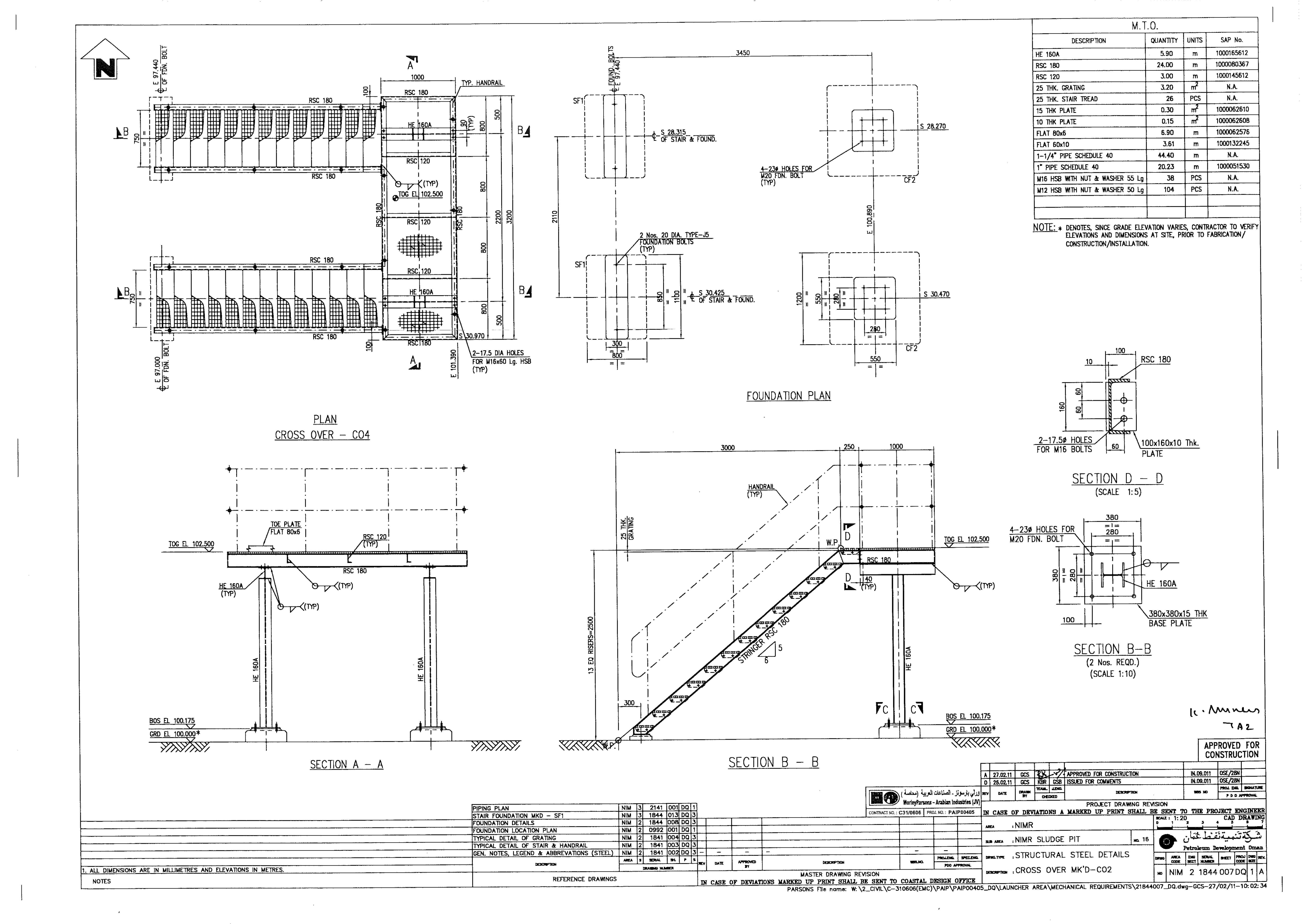
1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.

NOTES/REFERENCE DRAWINGS

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

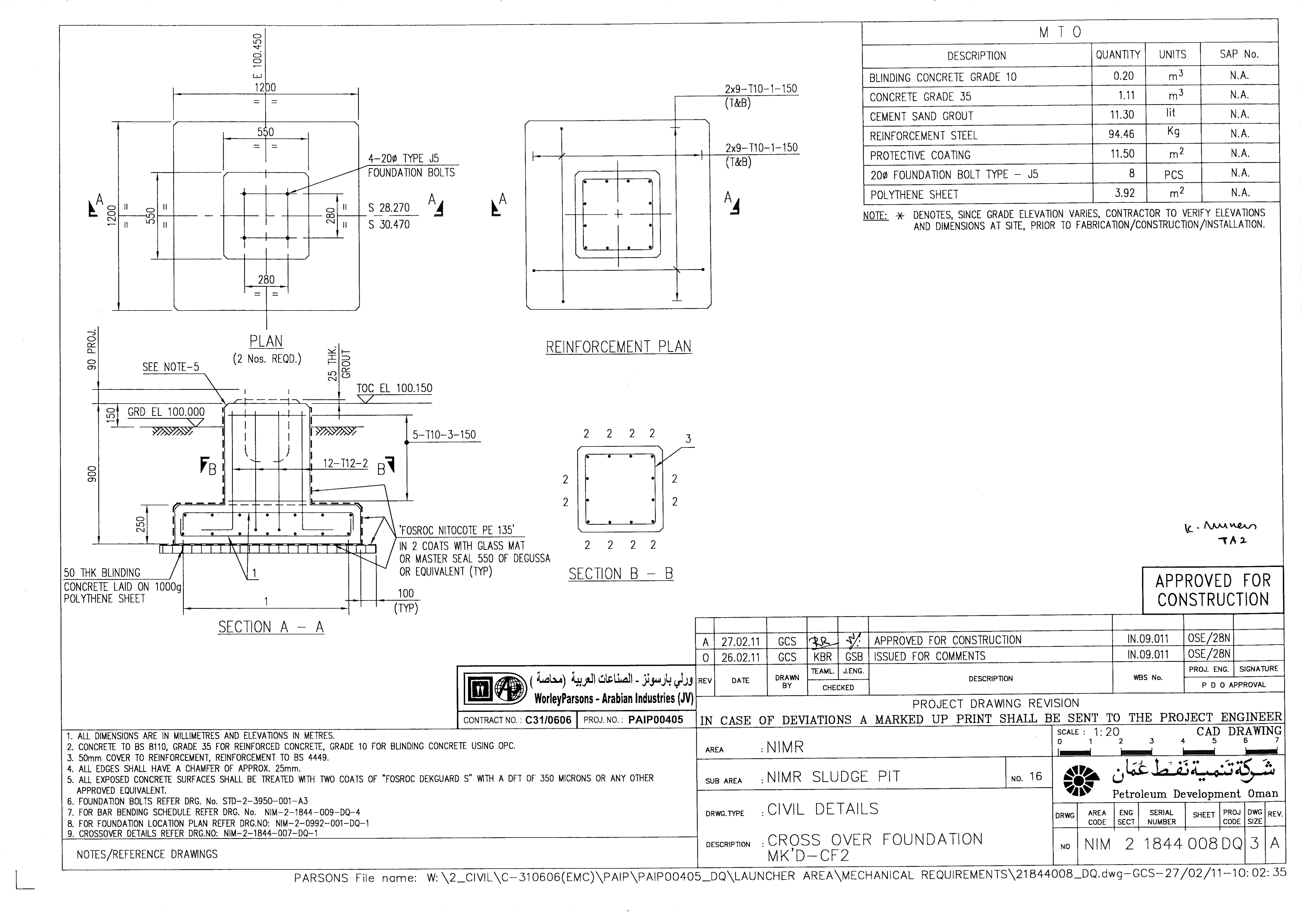
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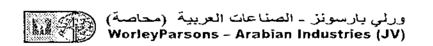


M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 160A	5.90	m	1000165612
RSC 180	24.00	m	1000080367
RSC 120	3.00	m	1000145612
25 THK. GRATING	3.20	m²	N.A.
25 THK. STAIR TREAD	26	PCS	N.A.
15 THK PLATE	0.30	m²	1000062610
10 THK PLATE	0.15	m²	1000062608
FLAT 80x6	6.90	m	1000062576
FLAT 60x10	3.61	m	1000132245
1-1/4" PIPE SCHEDULE 40	44.40	m	N.A.
1" PIPE SCHEDULE 40	20.23	m	1000051530
M16 HSB WITH NUT & WASHER 55 Lg	38	PCS	N.A.
M12 HSB WITH NUT & WASHER 50 Lg	104	PCS	N.A.

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPING PLAN	NIM	3	2141	001	DQ	1
STAIR FOUNDATION MKD - SF1	NIM	3	1844	013	DQ	3
FOUNDATION DETAILS	NIM	2	1844	008	DQ	3
FOUNDATION LOCATION PLAN	NIM	2	0992	001	DQ	1
TYPICAL DETAIL OF GRATING	NIM	2	1841	004	DQ	3
TYPICAL DETAIL OF STAIR & HANDRAIL	NIM	2	1841	003	DQ	3
GEN. NOTES, LEGEND & ABBREVATIONS (STEEL)	NIM	2	1841	002	DQ	3


M T O
DESCRIPTION | QUANTITY | UNITS | SAP No.
BLINDING CONCRETE GRADE 10 | 0.20 | m3 | N.A.
CONCRETE GRADE 35 | 1.11 | m3 | N.A.
CEMENT SAND GROUT | 11.30 | lit | N.A.
REINFORCEMENT STEEL | 94.46 | Kg | N.A.
PROTECTIVE COATING | 11.50 | m2 | N.A.
20ø FOUNDATION BOLT TYPE – J5 | 8 | PCS | N.A.
POLYTHENE SHEET | 3.92 | m2 | N.A.
NOTE: ✳ DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.
E 100.450
1200
550
4–20ø TYPE J5
FOUNDATION BOLTS
S 28.270
S 30.470
280
PLAN
(2 Nos. REQD.)
2x9–T10–1–150
(T&B)
2x9–T10–1–150
(T&B)
REINFORCEMENT PLAN
90 PROJ.
SEE NOTE–5
25 THK. GROUT
TOC EL 100.150
GRD EL 100.000
150
5–T10–3–150
12–T12–2
900
250
'FOSROC NITOCOTE PE 135'
IN 2 COATS WITH GLASS MAT
OR MASTER SEAL 550 OF DEGUSSA
OR EQUIVALENT (TYP)
50 THK BLINDING
CONCRETE LAID ON 1000g
POLYTHENE SHEET
100
(TYP)
SECTION A – A
2 2 2 2
3
SECTION B – B
K. Muner
TA2
APPROVED FOR CONSTRUCTION
A | 27.02.11 | GCS | RR | W | APPROVED FOR CONSTRUCTION | IN.09.011 | OSE/28N
0 | 26.02.11 | GCS | KBR | GSB | ISSUED FOR COMMENTS | IN.09.011 | OSE/28N
REV | DATE | DRAWN BY | TEAML. | J.ENG. | CHECKED | DESCRIPTION | WBS No. | PROJ. ENG. | SIGNATURE | P D O APPROVAL
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. ALL EDGES SHALL HAVE A CHAMFER OF APPROX. 25mm.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOUNDATION BOLTS REFER DRG. No. STD–2–3950–001–A3
7. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM–2–1844–009–DQ–4
8. FOR FOUNDATION LOCATION PLAN REFER DRG.NO: NIM–2–0992–001–DQ–1
9. CROSSOVER DETAILS REFER DRG.NO: NIM–2–1844–007–DQ–1
NOTES/REFERENCE DRAWINGS
SCALE : 1:20
CAD DRAWING
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 16
DRWG.TYPE : CIVIL DETAILS
DESCRIPTION : CROSS OVER FOUNDATION MK'D–CF2
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO | AREA CODE NIM | ENG SECT 2 | SERIAL NUMBER 1844 | SHEET 008 | PROJ CODE DQ | DWG SIZE 3 | REV. A
PARSONS File name: W:\2_CIVIL\C–310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21844008_DQ.dwg–GCS–27/02/11–10:02:35



BAR BENDING SCHEDULE

JOB NO.: PAIP00405
PART ID.: CF2 - BAR BENDING SCHEDULE

REF. DWG NO.: NIM-2-1844-008-CN-3

Document No.: NIM-2-1844-009-CN-4
Revision No.: A
Prepared by: GCS
Checked by: PNG RR
Date: 27.02.11

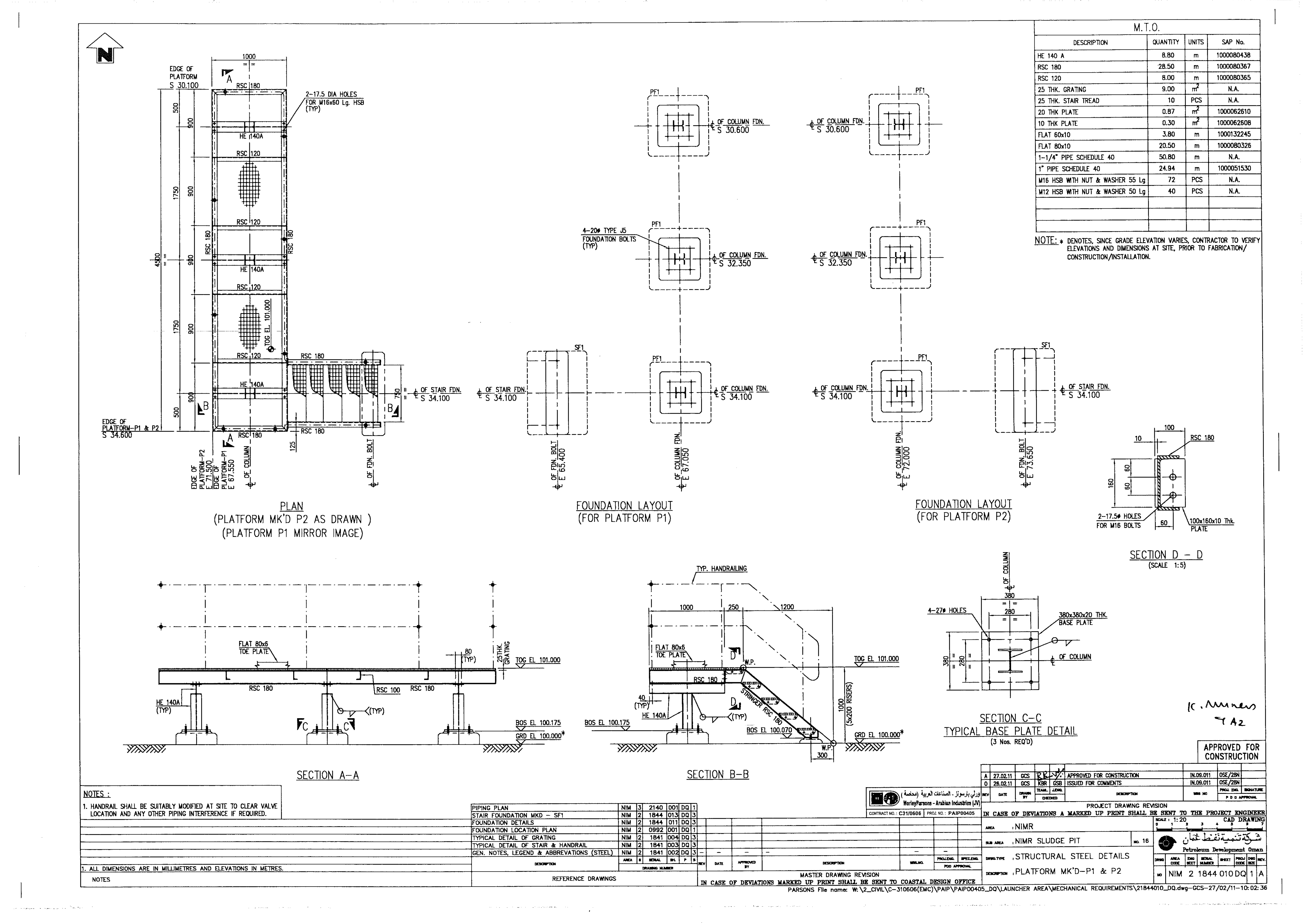
K. Munes
TA2

Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)			118.75	23.40				
Weight (Kgs)			73.63	20.83				
Total Weight (Kgs)								94.460

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
CF2	1	T10	2	36	72	1375	21	150	1100	150		
	2	T12	2	12	24	975	11	200	780			
	3	T10	2	5	10	1975	51	450	450			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 140 A	8.80	m	1000080438
RSC 180	28.50	m	1000080367
RSC 120	8.00	m	1000080365
25 THK. GRATING	9.00	m²	N.A.
25 THK. STAIR TREAD	10	PCS	N.A.
20 THK PLATE	0.87	m²	1000062610
10 THK PLATE	0.30	m²	1000062608
FLAT 60x10	3.80	m	1000132245
FLAT 80x10	20.50	m	1000080326
1-1/4" PIPE SCHEDULE 40	50.80	m	N.A.
1" PIPE SCHEDULE 40	24.94	m	1000051530
M16 HSB WITH NUT & WASHER 55 Lg	72	PCS	N.A.
M12 HSB WITH NUT & WASHER 50 Lg	40	PCS	N.A.

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

NOTES :

1. HANDRAIL SHALL BE SUITABLY MODIFIED AT SITE TO CLEAR VALVE LOCATION AND ANY OTHER PIPING INTERFERENCE IF REQUIRED.

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.

REFERENCE DRAWINGS

DESCRIPTION	DRAWING NUMBER
PIPING PLAN	NIM 3 2140 001 DQ 1
STAIR FOUNDATION MKD – SF1	NIM 2 1844 013 DQ 3
FOUNDATION DETAILS	NIM 2 1844 011 DQ 3
FOUNDATION LOCATION PLAN	NIM 2 0992 001 DQ 1
TYPICAL DETAIL OF GRATING	NIM 2 1841 004 DQ 3
TYPICAL DETAIL OF STAIR & HANDRAIL	NIM 2 1841 003 DQ 3
GEN. NOTES, LEGEND & ABBREVATIONS (STEEL)	NIM 2 1841 002 DQ 3

REV	DATE	DRAWN BY	CHECKED	DESCRIPTION		
A	27.02.11	GCS		APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N
0	26.02.11	GCS	KBR GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

WorleyParsons - Arabian Industries (JV) — ورلي بارسونز - الصناعات العربية (محاصة)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

AREA: NIMR
SUB AREA: NIMR SLUDGE PIT — NO. 16
DWG. TYPE: STRUCTURAL STEEL DETAILS
DESCRIPTION: PLATFORM MK'D–P1 & P2

SCALE: 1:20 — CAD DRAWING

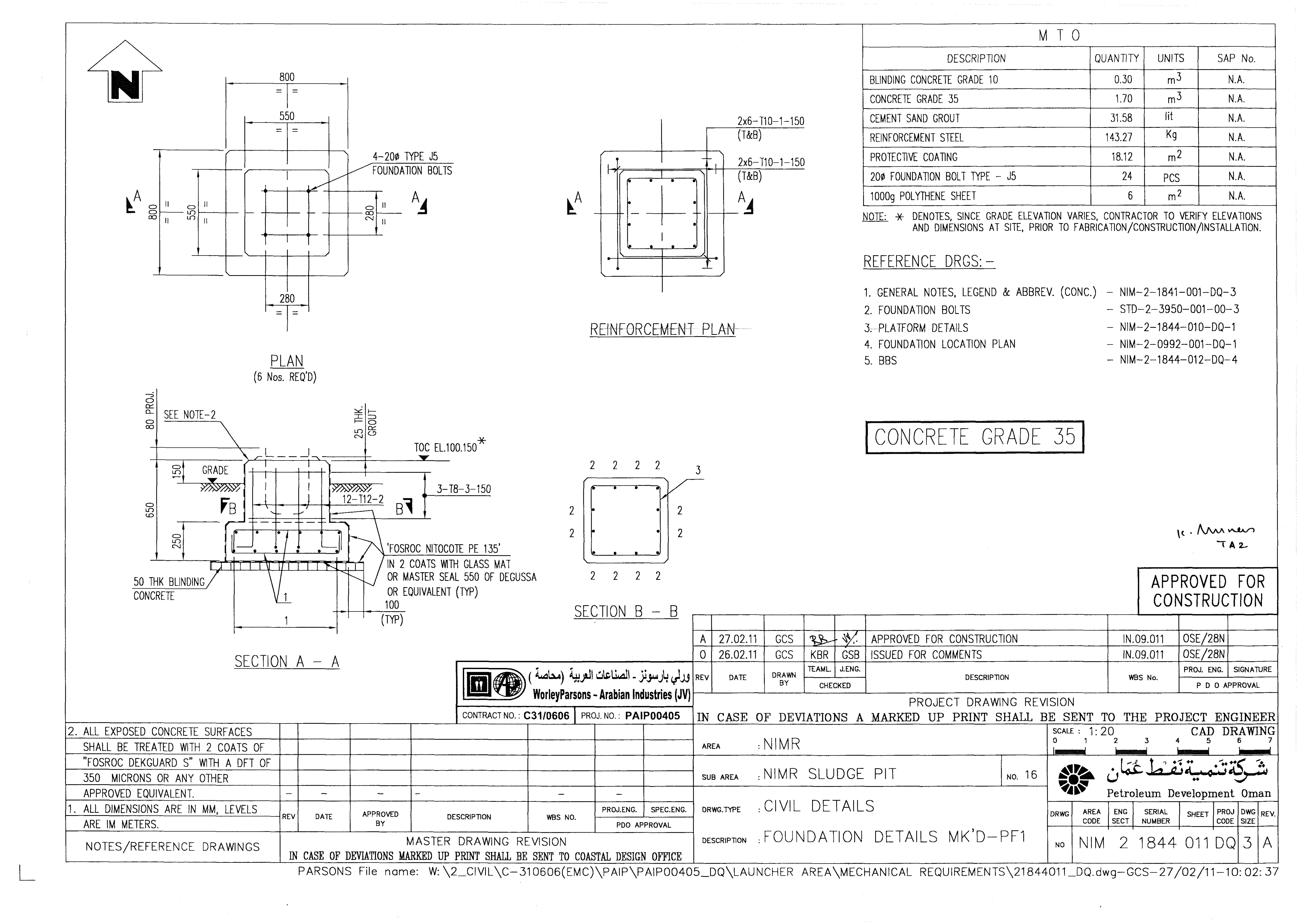
شركة تنمية نفط عمان — Petroleum Development Oman

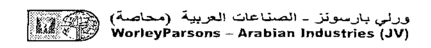
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MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21844010_DQ.dwg–GCS–27/02/11–10:02:36


N
800
550
4-20ø TYPE J5
FOUNDATION BOLTS
800
550
280
280
PLAN
(6 Nos. REQ'D)
2x6-T10-1-150
(T&B)
2x6-T10-1-150
(T&B)
REINFORCEMENT PLAN
M T O
DESCRIPTION | QUANTITY | UNITS | SAP No.
BLINDING CONCRETE GRADE 10 | 0.30 | m3 | N.A.
CONCRETE GRADE 35 | 1.70 | m3 | N.A.
CEMENT SAND GROUT | 31.58 | lit | N.A.
REINFORCEMENT STEEL | 143.27 | Kg | N.A.
PROTECTIVE COATING | 18.12 | m2 | N.A.
20ø FOUNDATION BOLT TYPE - J5 | 24 | PCS | N.A.
1000g POLYTHENE SHEET | 6 | m2 | N.A.
NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.
REFERENCE DRGS:-
1. GENERAL NOTES, LEGEND & ABBREV. (CONC.) - NIM-2-1841-001-DQ-3
2. FOUNDATION BOLTS - STD-2-3950-001-00-3
3. PLATFORM DETAILS - NIM-2-1844-010-DQ-1
4. FOUNDATION LOCATION PLAN - NIM-2-0992-001-DQ-1
5. BBS - NIM-2-1844-012-DQ-4
CONCRETE GRADE 35
80 PROJ.
SEE NOTE-2
25 THK. GROUT
TOC EL.100.150*
150
GRADE
3-T8-3-150
650
12-T12-2
B
B
250
'FOSROC NITOCOTE PE 135'
IN 2 COATS WITH GLASS MAT
OR MASTER SEAL 550 OF DEGUSSA
OR EQUIVALENT (TYP)
50 THK BLINDING
CONCRETE
100
(TYP)
1
SECTION A - A
SECTION B - B
APPROVED FOR CONSTRUCTION
A | 27.02.11 | GCS | APPROVED FOR CONSTRUCTION | IN.09.011 | OSE/28N
0 | 26.02.11 | GCS | KBR | GSB | ISSUED FOR COMMENTS | IN.09.011 | OSE/28N
REV | DATE | DRAWN BY | TEAML. | J.ENG. | CHECKED | DESCRIPTION | WBS No. | PROJ. ENG. | SIGNATURE | P D O APPROVAL
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
2. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH 2 COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
1. ALL DIMENSIONS ARE IN MM, LEVELS ARE IM METERS.
NOTES/REFERENCE DRAWINGS
REV | DATE | APPROVED BY | DESCRIPTION | WBS NO. | PROJ.ENG. | SPEC.ENG. | PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
SCALE: 1:20
CAD DRAWING
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 16
DRWG.TYPE : CIVIL DETAILS
DESCRIPTION : FOUNDATION DETAILS MK'D-PF1
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG | AREA CODE | ENG SECT | SERIAL NUMBER | SHEET | PROJ CODE | DWG SIZE | REV.
NO | NIM | 2 | 1844 | 011 | DQ | 3 | A
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21844011_DQ.dwg-GCS-27/02/11-10:02:37



BAR BENDING SCHEDULE

JOB NO.:	PAIP00238	**Document No.:**	NIM-2-1844-012-DQ-4
PART ID.:	NIMR SLUDGE PIT SYSTEMS PLATFORM-P1&P2	**Revision No.:**	A
		Prepared by:	GCS
		Checked by:	PNG RB
REF. DWG NO.:	NIM-2-1844-011-DQ-3	Date:	27.02.11

K. Murnew
TA2

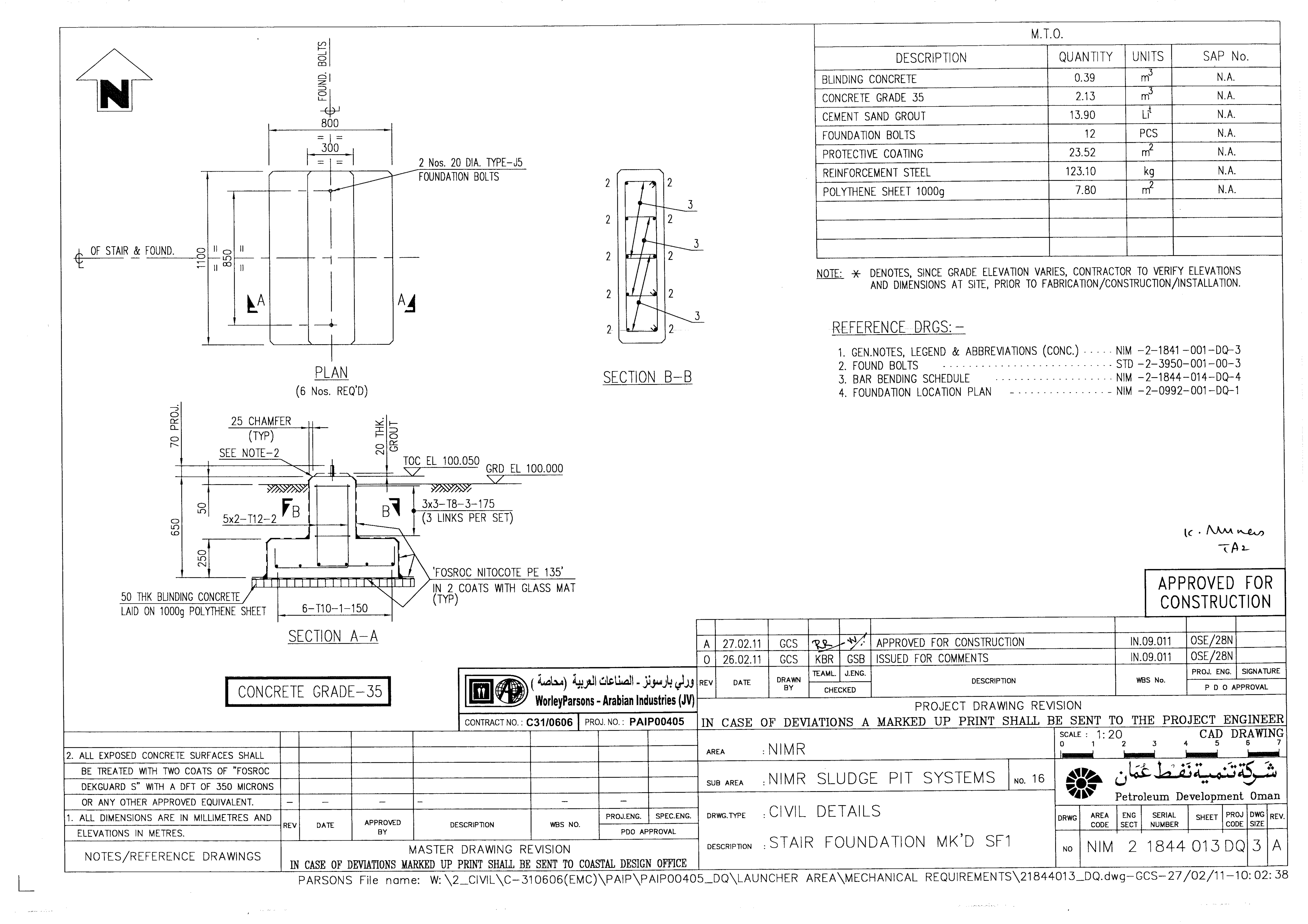
Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		35.55	133.20	52.20				
Weight (Kgs)		14.22	82.59	46.46				

Total Weight (Kgs) 143.270

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PLATFORM	1	T10	6	24	144	925	21	125	700	125		
FDN. PF1	2	T12	6	12	72	725	11	200	530			
	3	T8	6	3	18	1975	51	450	450			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	0.39	m^3	N.A.
CONCRETE GRADE 35	2.13	m^3	N.A.
CEMENT SAND GROUT	13.90	Lit	N.A.
FOUNDATION BOLTS	12	PCS	N.A.
PROTECTIVE COATING	23.52	m^2	N.A.
REINFORCEMENT STEEL	123.10	kg	N.A.
POLYTHENE SHEET 1000g	7.80	m^2	N.A.

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

REFERENCE DRGS:-

1. GEN.NOTES, LEGEND & ABBREVIATIONS (CONC.) ..... NIM -2-1841-001-DQ-3
2. FOUND BOLTS .... STD -2-3950-001-00-3
3. BAR BENDING SCHEDULE .... NIM -2-1844-014-DQ-4
4. FOUNDATION LOCATION PLAN .... NIM -2-0992-001-DQ-1

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

NOTES/REFERENCE DRAWINGS

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.

REV	DATE	APPROVED BY	DESCRIPTION	WBS NO.	PROJ.ENG.	SPEC.ENG.
-	-	-	-	-	-	

PDO APPROVAL

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

SCALE : 1:20 — CAD DRAWING

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEMS — NO. 16

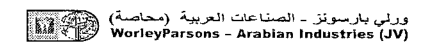
DRWG.TYPE : CIVIL DETAILS

DESCRIPTION : STAIR FOUNDATION MK'D SF1

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1844	013	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\MECHANICAL REQUIREMENTS\21844013_DQ.dwg-GCS-27/02/11-10:02:38



BAR BENDING SCHEDULE

JOB NO.: **PAIP00238**
PART ID.: **NIMR SLUDGE PIT SYSTEMS STAIR FOUNDATION**

REF. DWG NO.: **NIM-2-1844-013-DQ-3**

Document No.: **NIM-2-1844-014-DQ-4**
Revision No.: A
Prepared by: GCS
Checked by: PNG RB
Date: 27.02.11

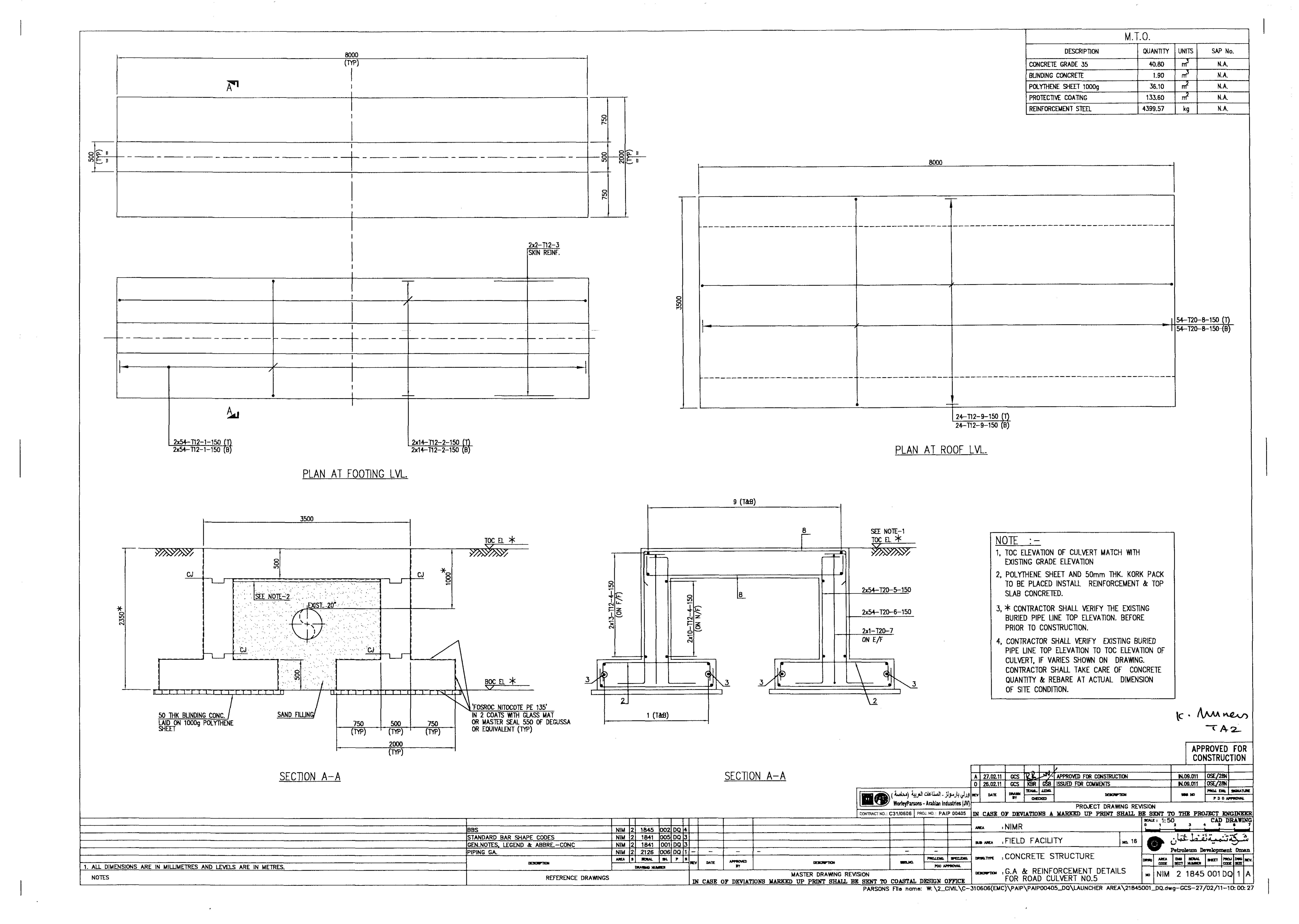
K. Muneer
TA2

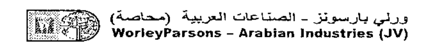
Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		86.40	45.90	67.50				
Weight (Kgs)		34.56	28.46	60.08				
Total Weight (Kgs)								123.100

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
STAIR	1	T10	6	6	36	1275	21	150	1000	150		
FOUNDATION	2	T12	6	10	60	1125	21	150	450	550		
	3	T8	6	9	54	1600	51	520	200			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm


M.T.O.
DESCRIPTION | QUANTITY | UNITS | SAP No.
CONCRETE GRADE 35 | 40.80 | m³ | N.A.
BLINDING CONCRETE | 1.90 | m³ | N.A.
POLYTHENE SHEET 1000g | 36.10 | m² | N.A.
PROTECTIVE COATING | 133.60 | m² | N.A.
REINFORCEMENT STEEL | 4399.57 | kg | N.A.
8000
(TYP)
750
500
750
2000
(TYP)
500
(TYP)
2x2-T12-3
SKIN REINF.
2x54-T12-1-150 (T)
2x54-T12-1-150 (B)
2x14-T12-2-150 (T)
2x14-T12-2-150 (B)
PLAN AT FOOTING LVL.
8000
3500
54-T20-8-150 (T)
54-T20-8-150 (B)
24-T12-9-150 (T)
24-T12-9-150 (B)
PLAN AT ROOF LVL.
3500
TOC EL *
500
1000*
CJ
SEE NOTE-2
EXIST. 20"
2350*
BOC EL *
50 THK BLINDING CONC. LAID ON 1000g POLYTHENE SHEET
SAND FILLING
'FOSROC NITOCOTE PE 135' IN 2 COATS WITH GLASS MAT OR MASTER SEAL 550 OF DEGUSSA OR EQUIVALENT (TYP)
750 (TYP)
500 (TYP)
750 (TYP)
2000 (TYP)
SECTION A-A
9 (T&B)
8
SEE NOTE-1
TOC EL *
2x13-T12-4-150 (ON F/F)
2x10-T12-4-150 (ON N/F)
2x54-T20-5-150
2x54-T20-6-150
2x1-T20-7
ON E/F
3
2
1 (T&B)
SECTION A-A
NOTE :-
1. TOC ELEVATION OF CULVERT MATCH WITH EXISTING GRADE ELEVATION
2. POLYTHENE SHEET AND 50mm THK. KORK PACK TO BE PLACED INSTALL REINFORCEMENT & TOP SLAB CONCRETED.
3. * CONTRACTOR SHALL VERIFY THE EXISTING BURIED PIPE LINE TOP ELEVATION. BEFORE PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL VERIFY EXISTING BURIED PIPE LINE TOP ELEVATION TO TOC ELEVATION OF CULVERT, IF VARIES SHOWN ON DRAWING. CONTRACTOR SHALL TAKE CARE OF CONCRETE QUANTITY & REBARE AT ACTUAL DIMENSION OF SITE CONDITION.
K. Munes
TA2
APPROVED FOR CONSTRUCTION
A | 27.02.11 | GCS | APPROVED FOR CONSTRUCTION | N.09.011 | OSE/28N
0 | 26.02.11 | GCS | KBR | GSB | ISSUED FOR COMMENTS | N.09.011 | OSE/28N
REV | DATE | DRAWN BY | TEAM L. | L.ENG. | CHECKED | DESCRIPTION | WBS NO | PROJ. ENG. | SIGNATURE | P D O APPROVAL
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP 00405
AREA : NIMR
SUB AREA : FIELD FACILITY | NO. 16
DRWG. TYPE : CONCRETE STRUCTURE
DESCRIPTION : G.A & REINFORCEMENT DETAILS FOR ROAD CULVERT NO.5
SCALE : 1:50
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO | AREA CODE | ENG SECT | SERIAL NUMBER | SHEET | PROJ CODE | DWG SIZE | REV.
NIM | 2 | 1845 | 001 | DQ | 1 | A
BBS | NIM | 2 | 1845 | 002 | DQ | 4
STANDARD BAR SHAPE CODES | NIM | 2 | 1841 | 005 | DQ | 3
GEN.NOTES, LEGEND & ABBRE.-CONC | NIM | 2 | 1841 | 001 | DQ | 3
PIPING GA. | NIM | 2 | 2126 | 006 | DQ | 1
DESCRIPTION | AREA | S | SERIAL | SH. | P | S | DRAWING NUMBER
REFERENCE DRAWINGS
1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES.
NOTES
REV | DATE | APPROVED BY | DESCRIPTION | WBS.NO. | PROJ.ENG. | SPEC.ENG. | PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21845001_DQ.dwg-GCS-27/02/11-10:00:27



BAR BENDING SCHEDULE

JOB NO.:	PAIP00405	Document No.:	NIM-2-1845-002-DQ-4
PART ID.:	FIELD FACILITY	Revision No.:	A
	CULVERT NO. 5	Prepared by:	GCS
		Checked by:	PNG
REF. DWG NO.:	NIM-2-1845-001-DQ-1	Date:	27.02.11

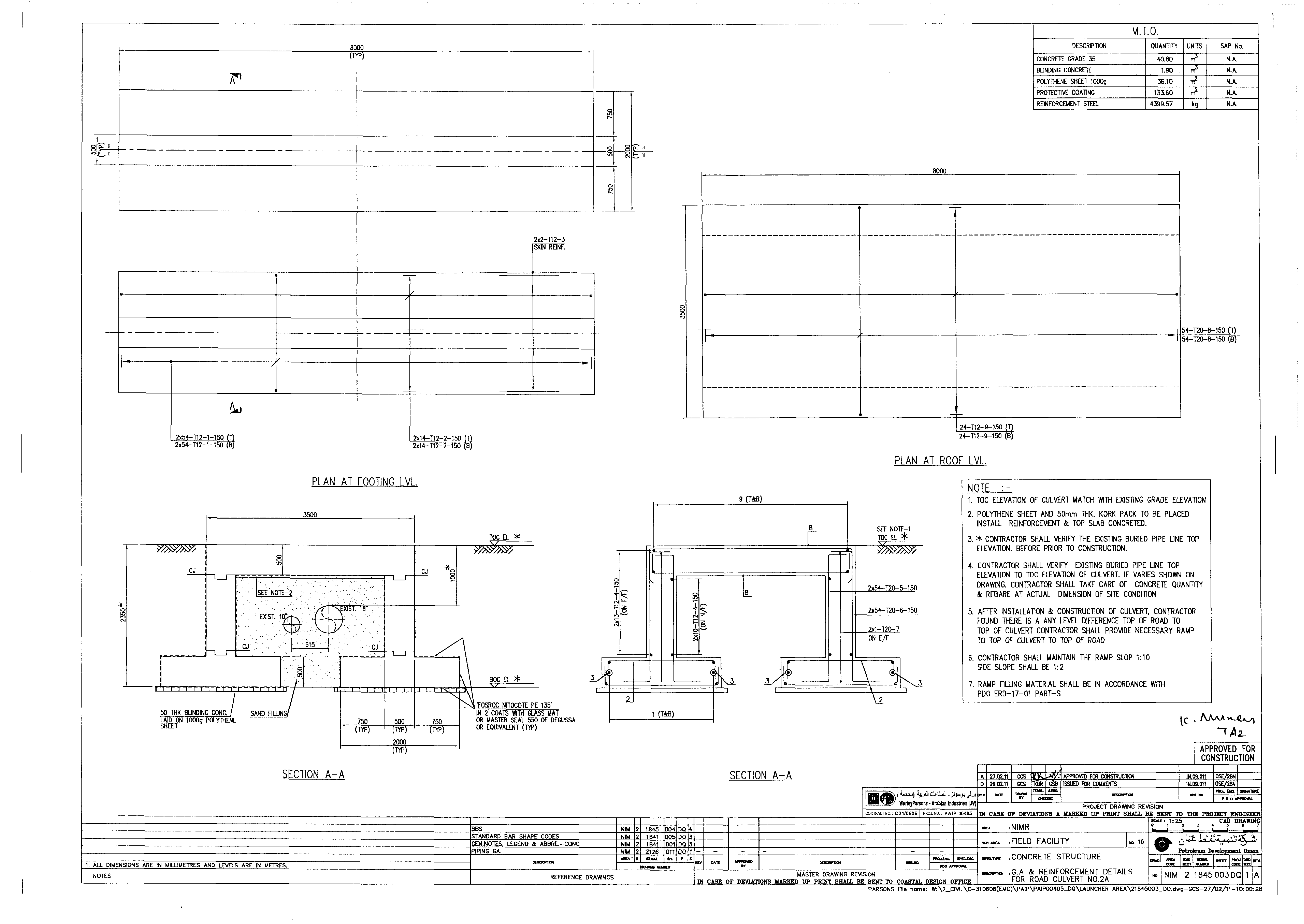
(c. Munes
TA2

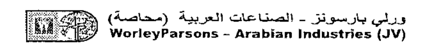
Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)				1897.45		1097.50		
Weight (Kgs)				1688.74		2710.83		
Total Weight (Kgs)								4399.570

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
CULVERT NO. 5	1	T12	1	216	216	2625	21	375	1900	375		
	2	T12	1	56	56	8625	21	375	7900	375		
	3	T12	1	4	4	10350	21	1250	7875	1250		
	4	T12	1	46	46	8575	23	350	7900	350		
	5	T20	1	108	108	3025	23	350	2185	600		
	6	T20	1	108	108	3025	23	350	2185	600		
	7	T20	1	4	4	3025	21	350	2185	600		
	8	T20	1	108	108	4000	21	350	3400	350		
	9	T12	1	48	48	8575	21	350	7900	350		

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm


M.T.O.
DESCRIPTION | QUANTITY | UNITS | SAP No.
CONCRETE GRADE 35 | 40.80 | m3 | N.A.
BLINDING CONCRETE | 1.90 | m3 | N.A.
POLYTHENE SHEET 1000g | 36.10 | m2 | N.A.
PROTECTIVE COATING | 133.60 | m2 | N.A.
REINFORCEMENT STEEL | 4399.57 | kg | N.A.
8000 (TYP)
750
500
750
500 (TYP)
2000 (TYP)
2x2-T12-3 SKIN REINF.
2x54-T12-1-150 (T)
2x54-T12-1-150 (B)
2x14-T12-2-150 (T)
2x14-T12-2-150 (B)
PLAN AT FOOTING LVL.
8000
3500
54-T20-8-150 (T)
54-T20-8-150 (B)
24-T12-9-150 (T)
24-T12-9-150 (B)
PLAN AT ROOF LVL.
3500
TOC EL *
CJ
SEE NOTE-2
EXIST. 10"
EXIST. 18"
615
2350*
1000*
BOC EL *
50 THK BLINDING CONC. LAID ON 1000g POLYTHENE SHEET
SAND FILLING
'FOSROC NITOCOTE PE 135' IN 2 COATS WITH GLASS MAT OR MASTER SEAL 550 OF DEGUSSA OR EQUIVALENT (TYP)
750 (TYP)
500 (TYP)
750 (TYP)
2000 (TYP)
SECTION A-A
9 (T&B)
SEE NOTE-1
TOC EL *
2x13-T12-4-150 (ON F/F)
2x10-T12-4-150 (ON N/F)
2x54-T20-5-150
2x54-T20-6-150
2x1-T20-7 ON E/F
1 (T&B)
SECTION A-A
NOTE :-
1. TOC ELEVATION OF CULVERT MATCH WITH EXISTING GRADE ELEVATION
2. POLYTHENE SHEET AND 50mm THK. KORK PACK TO BE PLACED INSTALL REINFORCEMENT & TOP SLAB CONCRETED.
3. * CONTRACTOR SHALL VERIFY THE EXISTING BURIED PIPE LINE TOP ELEVATION. BEFORE PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL VERIFY EXISTING BURIED PIPE LINE TOP ELEVATION TO TOC ELEVATION OF CULVERT. IF VARIES SHOWN ON DRAWING. CONTRACTOR SHALL TAKE CARE OF CONCRETE QUANTITY & REBARE AT ACTUAL DIMENSION OF SITE CONDITION
5. AFTER INSTALLATION & CONSTRUCTION OF CULVERT, CONTRACTOR FOUND THERE IS A ANY LEVEL DIFFERENCE TOP OF ROAD TO TOP OF CULVERT CONTRACTOR SHALL PROVIDE NECESSARY RAMP TO TOP OF CULVERT TO TOP OF ROAD
6. CONTRACTOR SHALL MAINTAIN THE RAMP SLOP 1:10 SIDE SLOPE SHALL BE 1:2
7. RAMP FILLING MATERIAL SHALL BE IN ACCORDANCE WITH PDO ERD-17-01 PART-S
APPROVED FOR CONSTRUCTION
A 27.02.11 GCS APPROVED FOR CONSTRUCTION
0 26.02.11 GCS KBR GSB ISSUED FOR COMMENTS
PROJECT DRAWING REVISION
WorleyParsons - Arabian Industries (JV)
وورلي بارسونز - الصناعات العربية (محاصة)
CONTRACT NO.: C31/0606 PROJ.NO.: PAIP 00405
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE: 1:25
CAD DRAWING
AREA : NIMR
SUB AREA : FIELD FACILITY
DRWG.TYPE : CONCRETE STRUCTURE
DESCRIPTION : G.A & REINFORCEMENT DETAILS FOR ROAD CULVERT NO.2A
NO NIM 2 1845 003 DQ 1 A
شركة تنمية نفط عمان
Petroleum Development Oman
BBS NIM 2 1845 004 DQ 4
STANDARD BAR SHAPE CODES NIM 2 1841 005 DQ 3
GEN.NOTES, LEGEND & ABBRE.-CONC NIM 2 1841 001 DQ 3
PIPING GA. NIM 2 2126 011 DQ 1
REFERENCE DRAWINGS
1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES.
NOTES
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21845003_DQ.dwg-GCS-27/02/11-10:00:28



BAR BENDING SCHEDULE

JOB NO.: PAIP00405
PART ID.: FIELD FACILITY
CULVERT NO. 2A

REF. DWG NO.: NIM-2-1845-003-DQ-1

Document No.: NIM-2-1845-004-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG
Date: 27.02.11

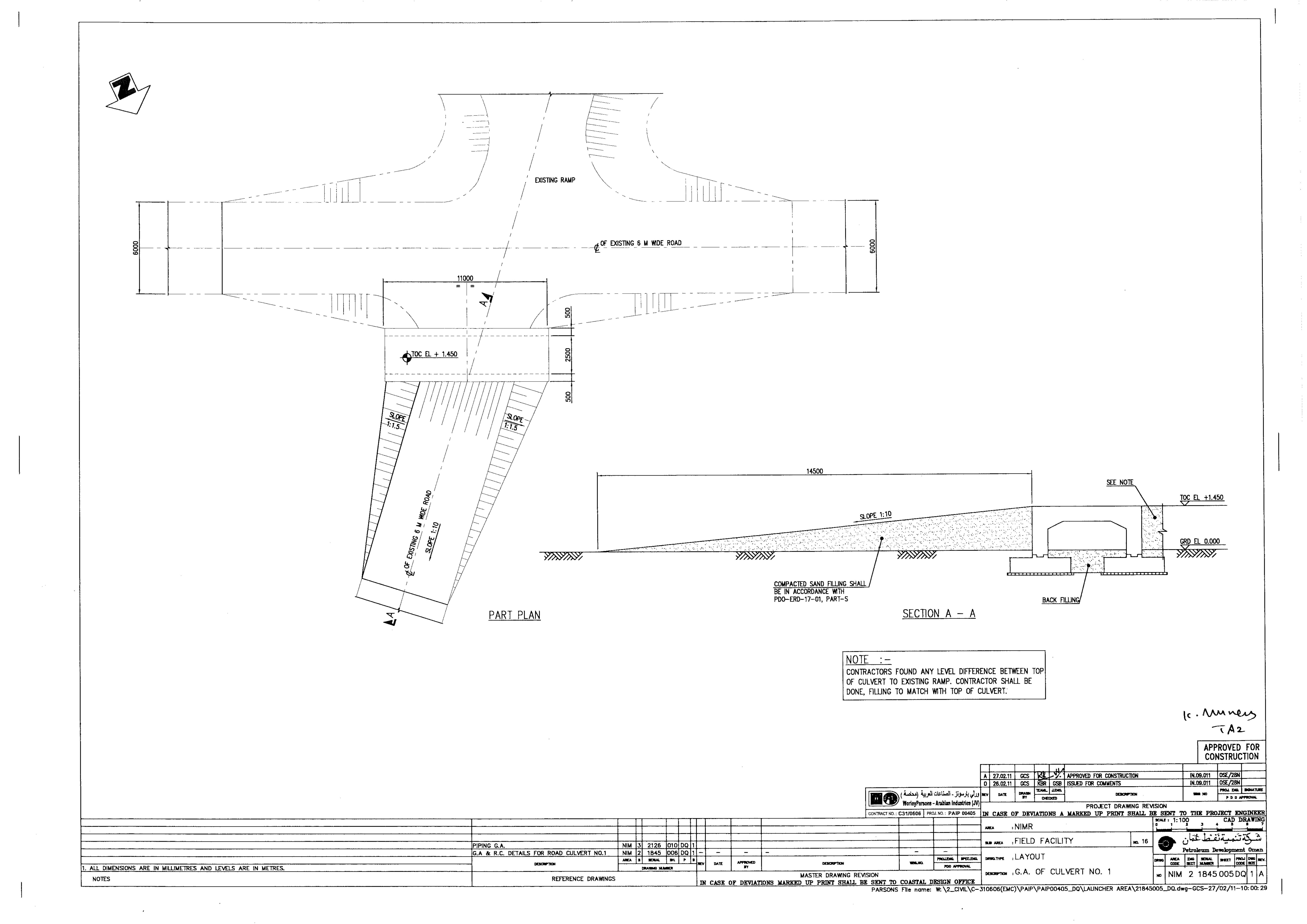
K. [illegible]
TA2

Total MTO for Rebars.

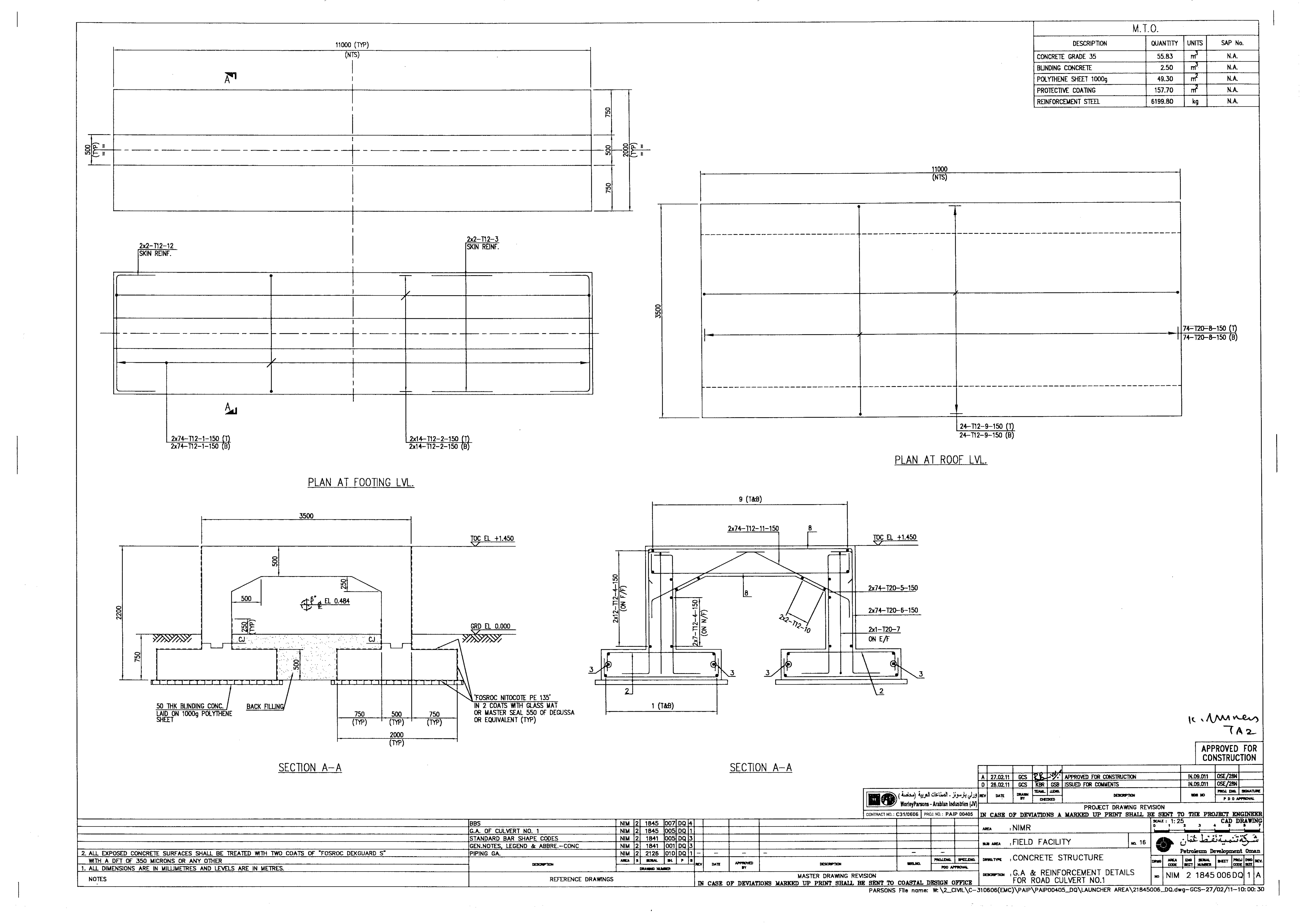
Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)				1897.45		1097.50		
Weight (Kgs)				1688.74		2710.83		
Total Weight (Kgs)								4399.570

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
CULVERT NO. 2A	1	T12	1	216	216	2625	21	375	1900	375		
	2	T12	1	56	56	8625	21	375	7900	375		
	3	T12	1	4	4	10350	21	1250	7875	1250		
	4	T12	1	46	46	8575	23	350	7900	350		
	5	T20	1	108	108	3025	23	350	2185	600		
	6	T20	1	108	108	3025	23	350	2185	600		
	7	T20	1	4	4	3025	21	350	2185	600		
	8	T20	1	108	108	4000	21	350	3400	350		
	9	T12	1	48	48	8575	21	350	7900	350		

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



EXISTING RAMP
6000
℄ OF EXISTING 6 M WIDE ROAD
6000
11000
A
500
TOC EL + 1.450
2500
500
SLOPE 1:1.5
SLOPE 1:1.5
℄ OF EXISTING 6 M WIDE ROAD
SLOPE 1:10
A
PART PLAN
14500
SLOPE 1:10
SEE NOTE
TOC EL +1.450
GRD EL 0.000
COMPACTED SAND FILLING SHALL BE IN ACCORDANCE WITH PDO-ERD-17-01, PART-S
BACK FILLING
SECTION A – A
NOTE :-
CONTRACTORS FOUND ANY LEVEL DIFFERENCE BETWEEN TOP OF CULVERT TO EXISTING RAMP. CONTRACTOR SHALL BE DONE, FILLING TO MATCH WITH TOP OF CULVERT.
APPROVED FOR CONSTRUCTION
A 27.02.11 GCS APPROVED FOR CONSTRUCTION IN.09.011 OSE/28N
0 26.02.11 GCS KBR GSB ISSUED FOR COMMENTS IN.09.011 OSE/28N
REV DATE DRAWN BY TEAM.L. J.ENG. CHECKED DESCRIPTION PROJ. ENG. SIGNATURE P D D APPROVAL
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP 00405
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE : 1:100 CAD DRAWING
AREA :NIMR
SUB AREA :FIELD FACILITY NO. 16
DWG. TYPE :LAYOUT
DESCRIPTION :G.A. OF CULVERT NO. 1
شركة تنمية نفط عمان
Petroleum Development Oman
DWG NO NIM 2 1845 005 DQ 1 A
PIPING G.A. NIM 3 2126 010 DQ 1
G.A & R.C. DETAILS FOR ROAD CULVERT NO.1 NIM 2 1845 006 DQ 1
DESCRIPTION DRAWING NUMBER
REFERENCE DRAWINGS
1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES.
NOTES
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21845005_DQ.dwg-GCS-27/02/11-10:00:29



M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
CONCRETE GRADE 35	55.83	m^3	N.A.
BLINDING CONCRETE	2.50	m^3	N.A.
POLYTHENE SHEET 1000g	49.30	m^2	N.A.
PROTECTIVE COATING	157.70	m^2	N.A.
REINFORCEMENT STEEL	6199.80	kg	N.A.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED		DESCRIPTION	WBS NO	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

وورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP 00405

AREA : NIMR
SUB AREA : FIELD FACILITY — NO. 16
DWG. TYPE : CONCRETE STRUCTURE
DESCRIPTION : G.A & REINFORCEMENT DETAILS FOR ROAD CULVERT NO.1

SCALE : 1:25 — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

NO. NIM 2 1845 006 DQ 1 A

DESCRIPTION	AREA	SH	SERIAL		SH.	P	R
BBS	NIM	2	1845	007	DQ	4	
G.A. OF CULVERT NO. 1	NIM	2	1845	005	DQ	1	
STANDARD BAR SHAPE CODES	NIM	2	1841	005	DQ	3	
GEN.NOTES, LEGEND & ABBRE.-CONC	NIM	2	1841	001	DQ	3	
PIPING GA.	NIM	2	2126	010	DQ	1	

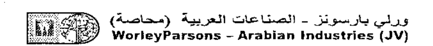
REFERENCE DRAWINGS

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

2. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER
1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES.

NOTES

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21845006_DQ.dwg-GCS-27/02/11-10:00:30



BAR BENDING SCHEDULE

JOB NO.: PAIP00405
PART ID.: FIELD FACILITY
CULVERT NO. 1

REF. DWG NO.: NIM-2-1845-006-DQ-1

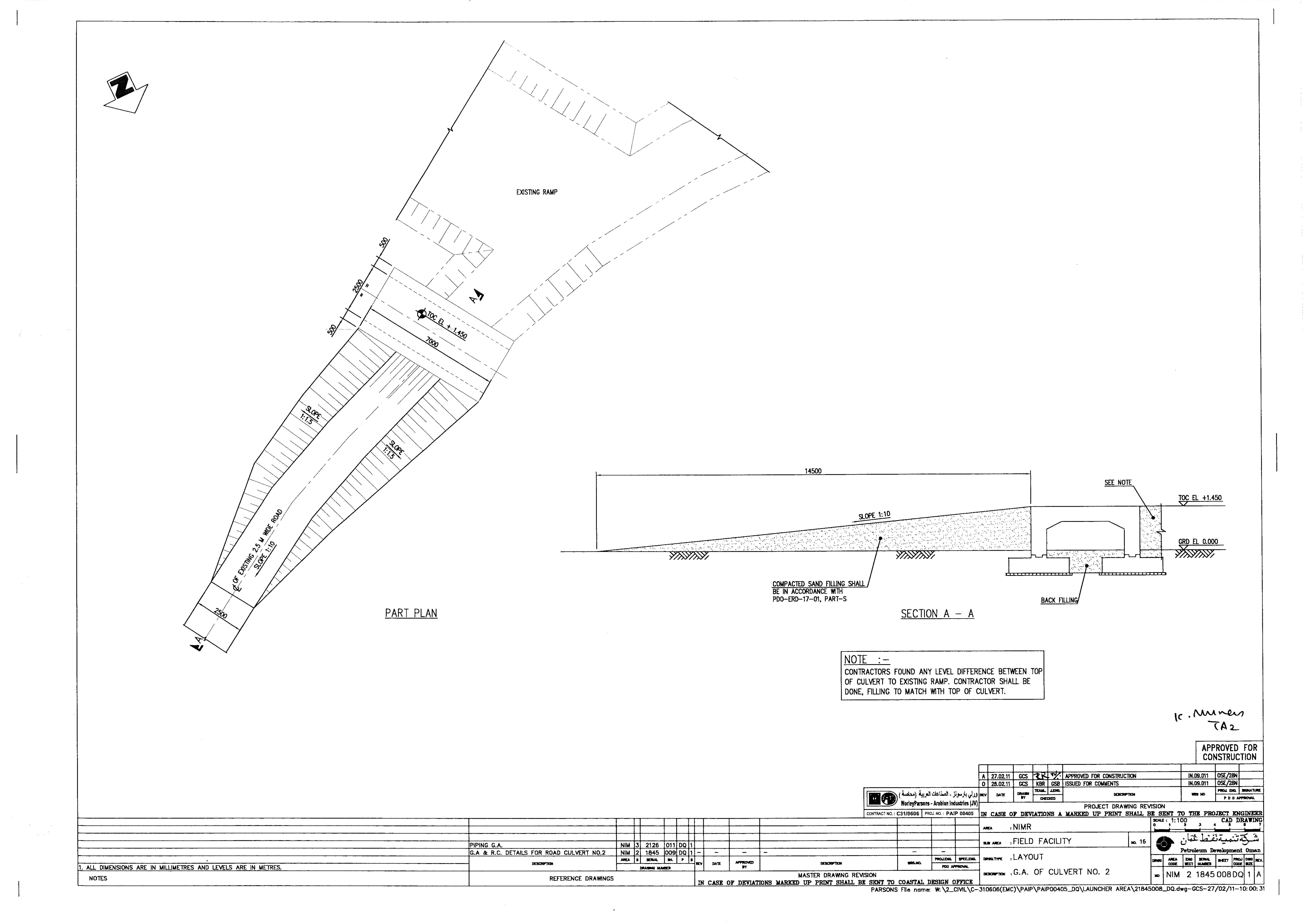
Document No.: NIM-2-1845-007-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG
Date: 27.02.11

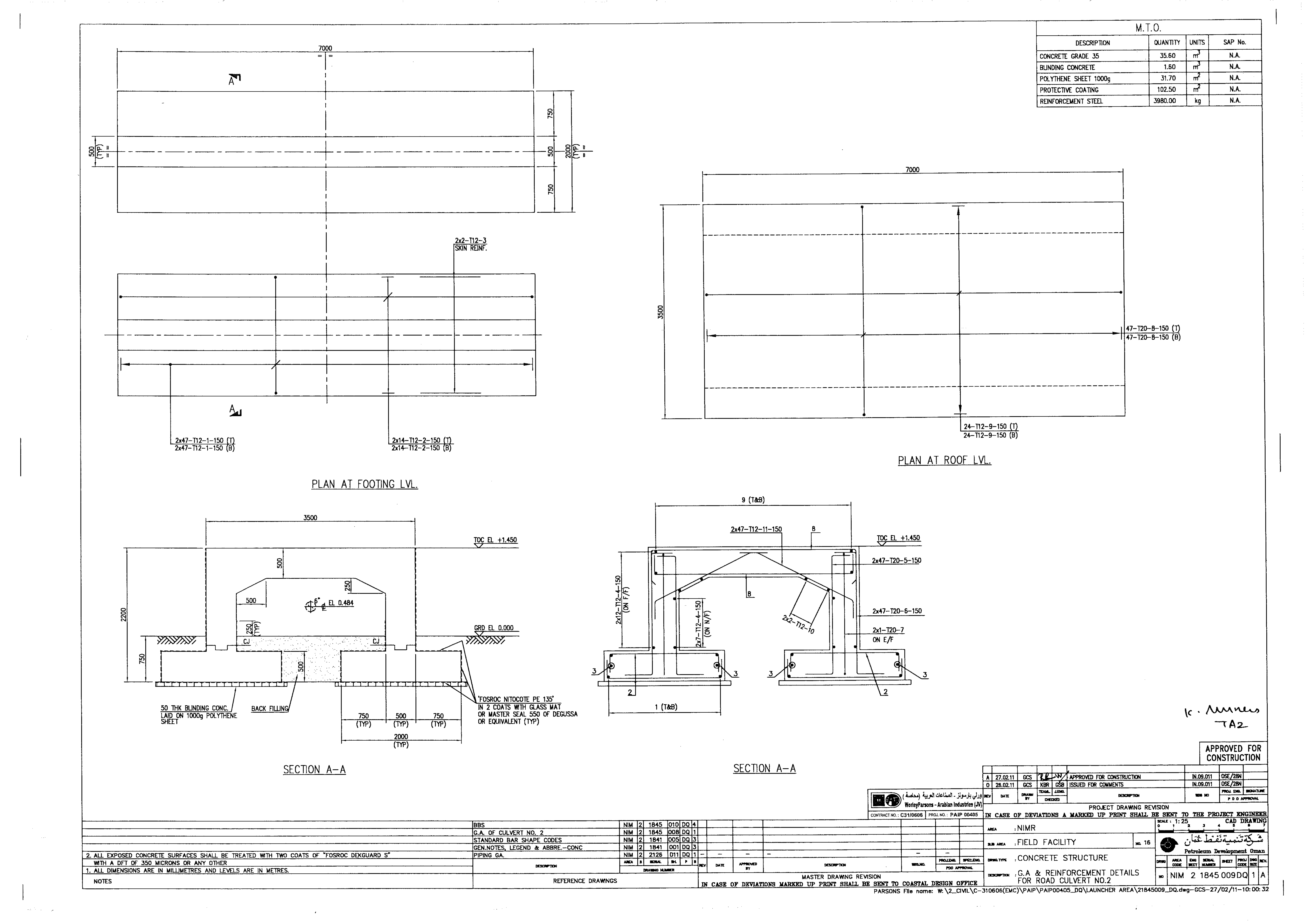
Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)				2887.75		1469.50		
Weight (Kgs)				2570.10		3629.67		
Total Weight (Kgs)								6199.770

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
CULVERT NO. 1	1	T12	1	296	296	2625	21	375	1900	375		
	2	T12	1	56	56	11625	21	375	10900	375		
	3	T12	1	4	4	10875	00	10875				
	4	T12	1	38	38	11575	23	350	10900	350		
	5	T20	1	148	148	2925	23	350	2075	600		
	6	T20	1	148	148	2925	23	350	2075	600		
	7	T20	1	4	4	2925	21	350	2075	600		
	8	T20	1	148	148	4000	21	350	3400	350		
	9	T12	1	48	48	11575	21	350	10900	350		
	10	T12	1	4	4	11375	21	250	10900	250		
	11	T12	1	148	148	2450	24	300	1835	300	821	
	12	T12	1	4	4	3175	21	650	1900	650		

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm


EXISTING RAMP
500
2500
500
TOC EL + 1.450
7000
A
SLOPE 1:1.5
SLOPE 1:1.5
℄ OF EXISTING 2.5 M WIDE ROAD
SLOPE 1:10
2500
A
PART PLAN
14500
SEE NOTE
TOC EL +1.450
SLOPE 1:10
GRD EL 0.000
COMPACTED SAND FILLING SHALL BE IN ACCORDANCE WITH PDO-ERD-17-01, PART-S
BACK FILLING
SECTION A – A
NOTE :-
CONTRACTORS FOUND ANY LEVEL DIFFERENCE BETWEEN TOP OF CULVERT TO EXISTING RAMP. CONTRACTOR SHALL BE DONE, FILLING TO MATCH WITH TOP OF CULVERT.
APPROVED FOR CONSTRUCTION
A 27.02.11 GCS APPROVED FOR CONSTRUCTION IN.09.011 OSE/2BN
0 26.02.11 GCS KBR GSB ISSUED FOR COMMENTS IN.09.011 OSE/2BN
REV DATE DRAWN BY TEAM L. / L.ENG. CHECKED DESCRIPTION WBS NO PROJ. ENG. SIGNATURE P D O APPROVAL
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP 00405
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE: 1:100 CAD DRAWING
AREA :NIMR
SUB AREA :FIELD FACILITY NO. 16
DRWG.TYPE :LAYOUT
DESCRIPTION :G.A. OF CULVERT NO. 2
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO NIM 2 1845 008 DQ 1 A
PIPING G.A. NIM 3 2126 011 DQ 1
G.A & R.C. DETAILS FOR ROAD CULVERT NO.2 NIM 2 1845 009 DQ 1
REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES.
NOTES
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21845008_DQ.dwg-GCS-27/02/11-10:00:31



M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
CONCRETE GRADE 35	35.60	m^3	N.A.
BLINDING CONCRETE	1.60	m^3	N.A.
POLYTHENE SHEET 1000g	31.70	m^2	N.A.
PROTECTIVE COATING	102.50	m^2	N.A.
REINFORCEMENT STEEL	3980.00	kg	N.A.

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES.
2. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER

REFERENCE DRAWINGS

DESCRIPTION	AREA	2	SERIAL	SH.	P	S
BBS	NIM	2	1845	010	DQ	4
G.A. OF CULVERT NO. 2	NIM	2	1845	008	DQ	1
STANDARD BAR SHAPE CODES	NIM	2	1841	005	DQ	3
GEN.NOTES, LEGEND & ABBRE.-CONC	NIM	2	1841	001	DQ	3
PIPING GA.	NIM	2	2126	011	DQ	1

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

REV	DATE	DRAWN BY	CHECKED TEAM.L	CHECKED J.ENG.	DESCRIPTION	WBS NO	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP 00405

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

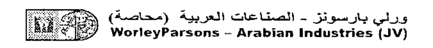
SCALE: 1:25 CAD DRAWING

AREA : NIMR
SUB AREA : FIELD FACILITY NO. 16
DRWG TYPE : CONCRETE STRUCTURE
DESCRIPTION : G.A & REINFORCEMENT DETAILS FOR ROAD CULVERT NO.2

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1845	009	DQ	1	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21845009_DQ.dwg-GCS-27/02/11-10:00:32



BAR BENDING SCHEDULE

JOB NO.: PAIP00405
PART ID.: FIELD FACILITY
CULVERT NO. 2

REF. DWG NO.: NIM-2-1845-009-DQ-1

Document No.: NIM-2-1845-010-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG
Date: 27.02.11

Total MTO for Rebars.

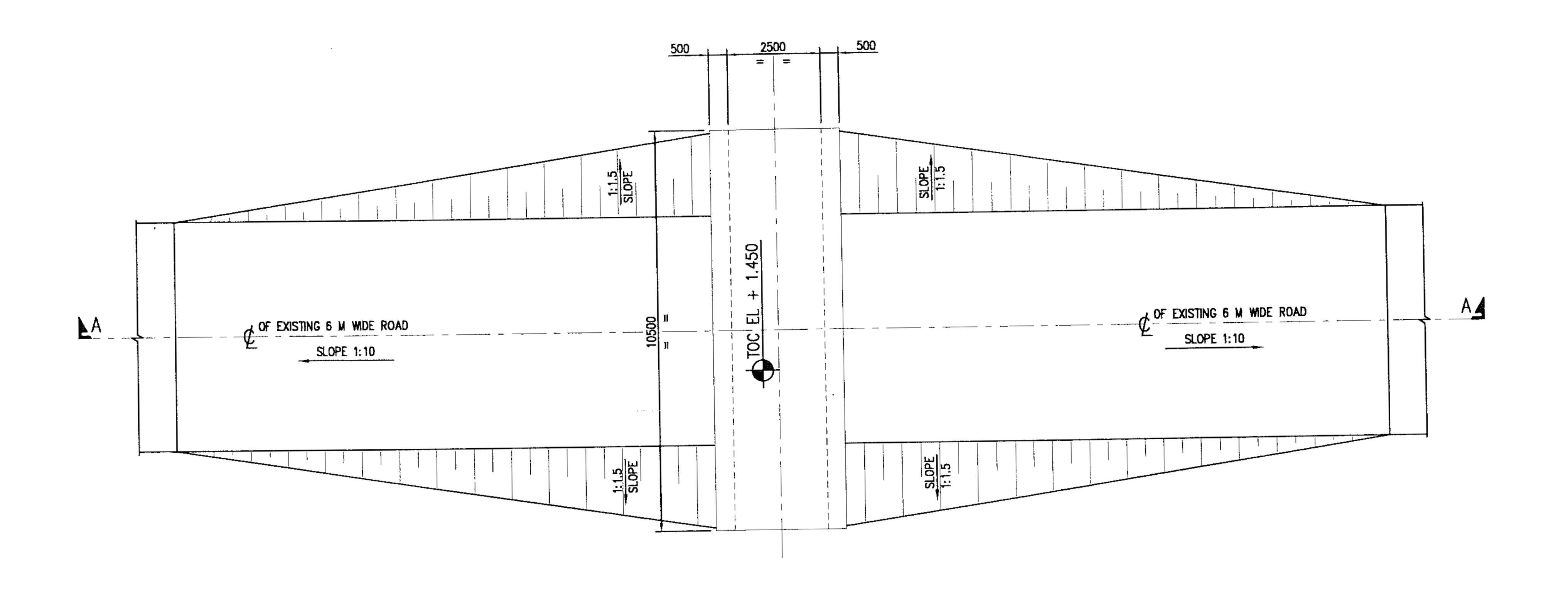
Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)				1869.15		937.60		
Weight (Kgs)				1663.55		2315.88		

Total Weight (Kgs) 3979.430

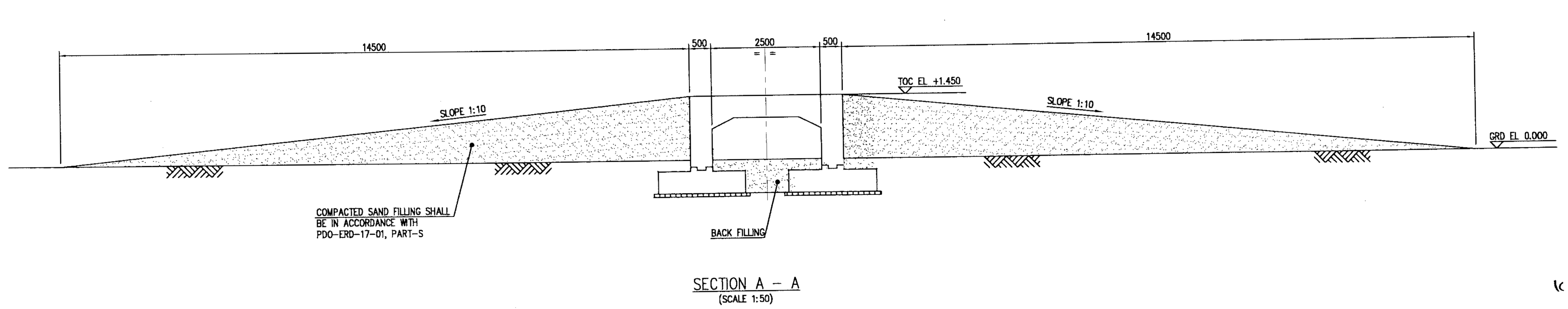
Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
CULVERT NO. 2	1	T12	1	188	188	2625	21	375	1900	375		
	2	T12	1	56	56	7625	21	375	6900	375		
	3	T12	1	4	4	9350	21	1250	6875	1250		
	4	T12	1	38	38	7575	23	350	6900	350		
	5	T20	1	94	94	2925	23	350	2075	600		
	6	T20	1	94	94	2925	23	350	2075	600		
	7	T20	1	4	4	2925	21	350	2075	600		
	8	T20	1	94	94	4000	21	350	3400	350		
	9	T12	1	48	48	7575	21	350	6900	350		
	10	T12	1	4	4	7375	21	250	6900	250		
	11	T12	1	94	94	2450	24	300	1835	300	821	

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm





PART PLAN
(2 Nos. REQ'D)



SECTION A – A
(SCALE 1:50)

K. Muners
TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAM.L	CHECKED J.ENG.	DESCRIPTION	MRS NO	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	27.02.11	GCS	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	XBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP 00405

SCALE: 1:75 — CAD DRAWING

AREA : NIMR
SUB AREA : FIELD FACILITY — NO. 16
DRWG. TYPE : LAYOUT
DESCRIPTION : G.A. OF CULVERT NO. 3 & 4

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1845	011	DQ	1	A

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPING G.A.	NIM	3	2126	013	DQ	1
G.A & R.C. DET'S. FOR ROAD CULVERT NO.3 & 4	NIM	2	1845	012	DQ	1

REFERENCE DRAWINGS

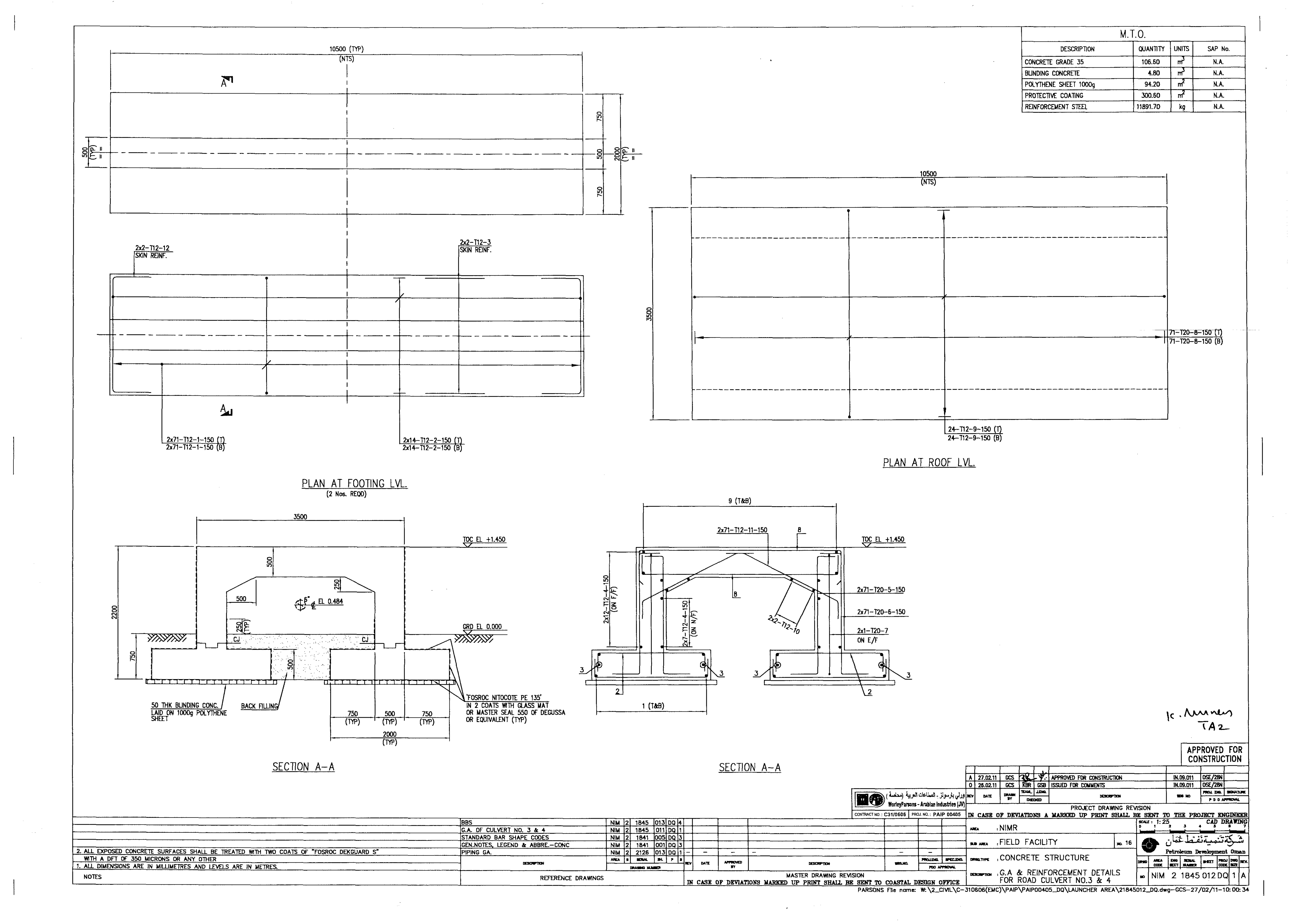
REV	DATE	APPROVED BY	DESCRIPTION	MRS.NO.	PROJ.ENG.	SPEC.ENG.
–	–	–	–	–	–	–

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES.

NOTES

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21845011_DQ.dwg-GCS-27/02/11-10:00:33



M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
CONCRETE GRADE 35	106.60	m^3	N.A.
BLINDING CONCRETE	4.80	m^3	N.A.
POLYTHENE SHEET 1000g	94.20	m^2	N.A.
PROTECTIVE COATING	300.60	m^2	N.A.
REINFORCEMENT STEEL	11891.70	kg	N.A.

K. Munes
TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	TEAM.	J.ENG.	DESCRIPTION	WBS NO	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

CHECKED — P D O APPROVAL

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP 00405

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

AREA : NIMR
SUB AREA : FIELD FACILITY NO. 16
DRWG. TYPE : CONCRETE STRUCTURE
DESCRIPTION : G.A & REINFORCEMENT DETAILS FOR ROAD CULVERT NO.3 & 4

SCALE : 1:25 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1845 012	DQ	1	A	

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
BBS	NIM	2	1845	013	DQ	4
G.A. OF CULVERT NO. 3 & 4	NIM	2	1845	011	DQ	1
STANDARD BAR SHAPE CODES	NIM	2	1841	005	DQ	3
GEN.NOTES, LEGEND & ABBRE.-CONC	NIM	2	1841	001	DQ	3
PIPING GA.	NIM	2	2126	013	DQ	1

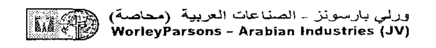
REFERENCE DRAWINGS

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES AND LEVELS ARE IN METRES.
2. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21845012_DQ.dwg-GCS-27/02/11-10:00:34



BAR BENDING SCHEDULE

JOB NO.: PAIP00405
PART ID.: FIELD FACILITY
CULVERT NO. 3 & 4

REF. DWG NO.: NIM-2-1845-012-DQ-1

Document No.: NIM-2-1845-013-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG
Date: 27.02.11

K. Munner
TA2

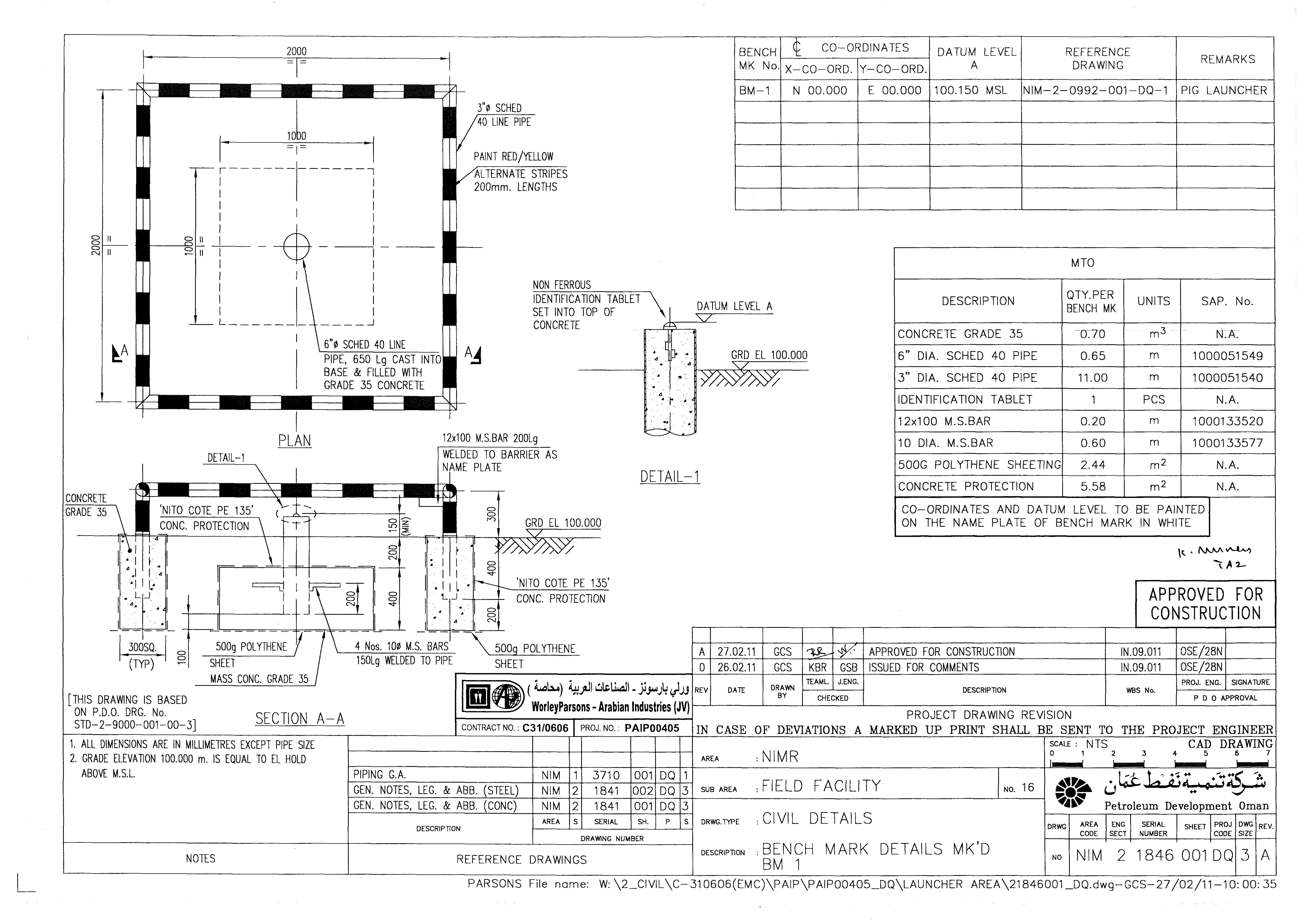
Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)				5532.90		2820.80		
Weight (Kgs)				4924.29		6967.38		

Total Weight (Kgs) 11891.670

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
CULVERT NO. 3 & 4	1	T12	2	284	568	2625	21	375	1900	375		
	2	T12	2	56	112	11125	21	375	10400	375		
	3	T12	2	4	8	10375	00	10375				
	4	T12	2	38	76	11075	23	350	10400	350		
	5	T20	2	142	284	2925	23	350	2075	600		
	6	T20	2	142	284	2925	23	350	2075	600		
	7	T20	2	4	8	2925	21	350	2075	600		
	8	T20	2	142	284	4000	21	350	3400	350		
	9	T12	2	48	96	11075	21	350	10400	350		
	10	T12	2	4	8	10875	21	250	10400	250		
	11	T12	2	142	284	2450	24	300	1835	300	821	
	12	T12	2	4	8	3150	21	650	1875	650		

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



BENCH MK No.	℄ CO-ORDINATES X-CO-ORD.	Y-CO-ORD.	DATUM LEVEL A	REFERENCE DRAWING	REMARKS
BM-1	N 00.000	E 00.000	100.150 MSL	NIM-2-0992-001-DQ-1	PIG LAUNCHER

MTO

DESCRIPTION	QTY.PER BENCH MK	UNITS	SAP. No.
CONCRETE GRADE 35	0.70	m^3	N.A.
6" DIA. SCHED 40 PIPE	0.65	m	1000051549
3" DIA. SCHED 40 PIPE	11.00	m	1000051540
IDENTIFICATION TABLET	1	PCS	N.A.
12x100 M.S.BAR	0.20	m	1000133520
10 DIA. M.S.BAR	0.60	m	1000133577
500G POLYTHENE SHEETING	2.44	m^2	N.A.
CONCRETE PROTECTION	5.58	m^2	N.A.

CO-ORDINATES AND DATUM LEVEL TO BE PAINTED ON THE NAME PLATE OF BENCH MARK IN WHITE

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT PIPE SIZE
2. GRADE ELEVATION 100.000 m. IS EQUAL TO EL HOLD ABOVE M.S.L.

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPING G.A.	NIM	1	3710	001	DQ	1
GEN. NOTES, LEG. & ABB. (STEEL)	NIM	2	1841	002	DQ	3
GEN. NOTES, LEG. & ABB. (CONC)	NIM	2	1841	001	DQ	3

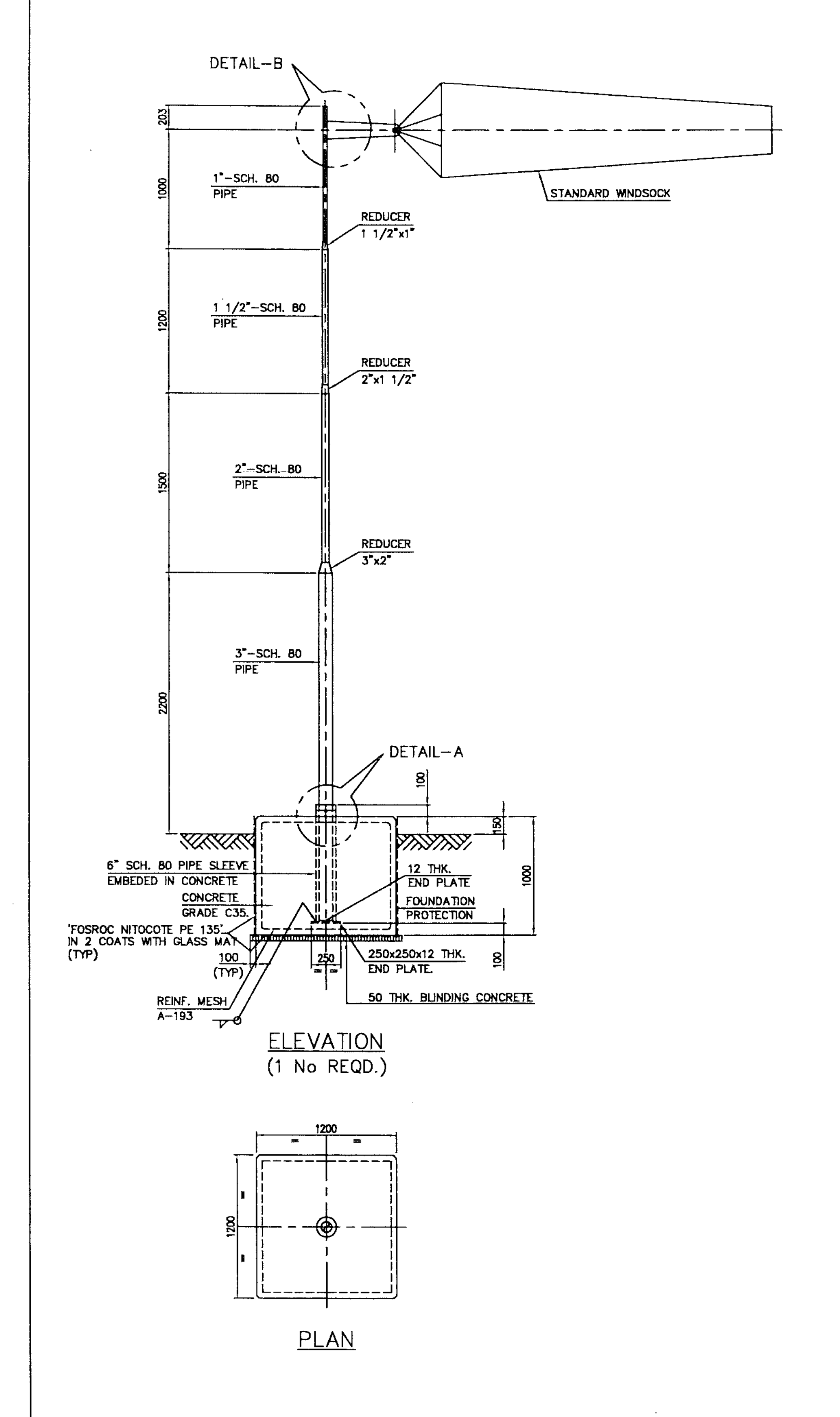
AREA : NIMR
SUB AREA : FIELD FACILITY — NO. 16
DRWG.TYPE : CIVIL DETAILS
DESCRIPTION : BENCH MARK DETAILS MK'D BM 1

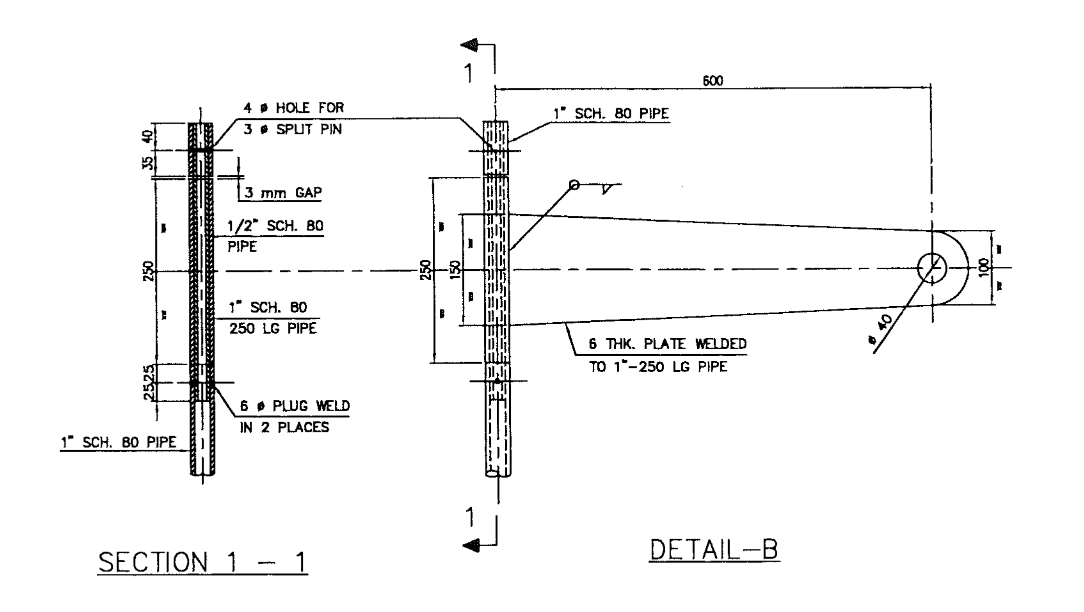
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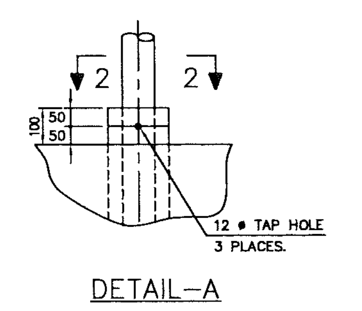
شركة تنمية نفط عمان
Petroleum Development Oman

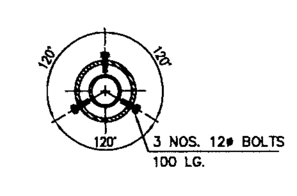
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NO	NIM	2	1846	001	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21846001_DQ.dwg-GCS-27/02/11-10:00:35









M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
CONCRETE GRADE 35	1.50	m^3	N.A.
BLINDING CONCRETE	0.10	m^3	N.A.
PROTECTIVE COATING	6.80	m^2	N.A.
A 193 MESH FABRIC	6.50	m^2	1000062697
3" PIPE SCHEDULE 80	3.10	m	1000051542
6" PIPE SCHEDULE 80	1.00	m	1000051551
2" PIPE SCHEDULE 80	1.50	m	1000051538
1-1/2" PIPE SCHEDULE 80	1.20	m	1000051534
1" PIPE SCHEDULE 80	1.20	m	1000051531
1/2" PIPE SCH.80	0.40	m	1000051525
6 THK PLATE	0.10	m^2	1000062606
12 THK PLATE	0.06	m^2	1000062609
REDUCER–1 1/2"x1"	1 No.	–	1000053063
REDUCER–2"x1 1/2"	1 No.	–	1000053073
REDUCER–3"x2"	1 No.	–	1000053081
SPLIT PIN 3mm ø	1 No.	–	NA
M12–100 LG BOLTS	6 Nos.	–	NA
WINDSOCK	1 No.	Pcs.	1000468729

K. Mumes
TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAM L.	CHECKED L.ENG.	DESCRIPTION	WBS NO	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RK	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP 00405

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

AREA : NIMR
SUB AREA : FIELD FACILITY NO. 16
DRWG TYPE : CIVIL DETAILS
DESCRIPTION : WINDSOCK DETAILS

SCALE : 1:75 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	1846	002	DQ	1	A

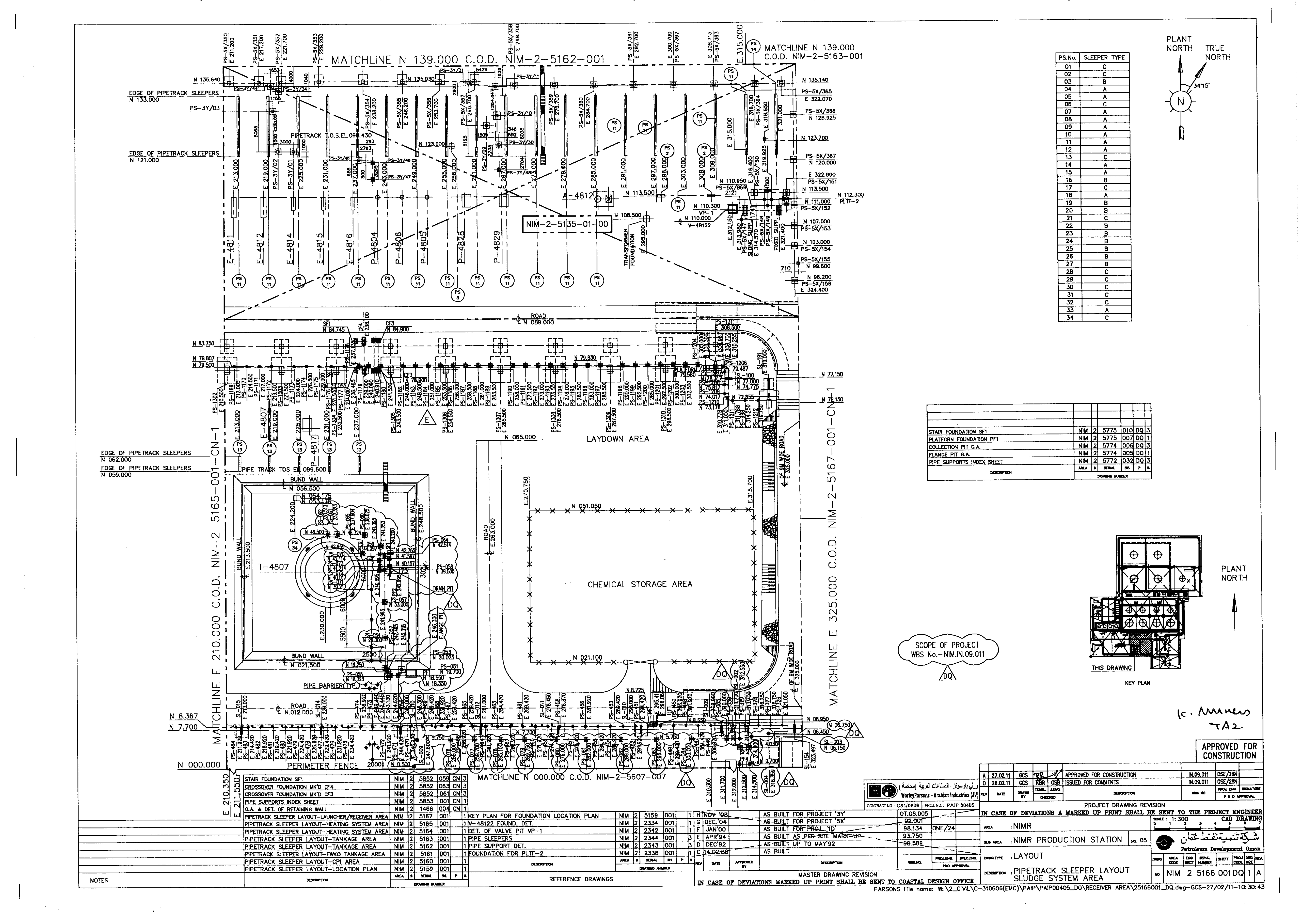
NOTES	REFERENCE DRAWINGS	AREA	S	SERIAL	SH.	P	S
5. GRADE ELEVATION 100.000 m. IS EQUAL TO EL HOLD ABOVE M.S.L.	FOUNDATION LOCATION PLAN	NIM	2	0992	001	DQ	1
4. ALL EXPOSED CONCRETE SURFACE SHALL BE TREATED WITH 2 COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS	GENERAL NOTES & ABBREVATIONS (STEEL)	NIM	2	1841	002	DQ	3
3. ALL EDGES SHALL HAVE A CHAMFER OF APPROX. 25mm	GENERAL NOTES & ABBREVATIONS (CONCRETE)	NIM	2	1841	001	DQ	3
2. STEELWORK/PIPEWORK TO BE PAINTED TO SP–1246–2 PCS–1 FINISH COLOUR WHITE							
1. ALL WELDING IS 6 THK.CONT.FILLET UNLESS OTHERWISE SPECIFIED							

REV	DATE	APPROVED BY	DESCRIPTION	WBS.NO.	PROJ.ENG.	SPEC.ENG.
–	–	–		–	–	

PDO APPROVAL

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\LAUNCHER AREA\21846002_DQ.dwg-GCS-27/02/11-10:00:36



PS.No.	SLEEPER TYPE
01	C
02	C
03	B
04	A
05	A
06	C
07	A
08	A
09	A
10	A
11	A
12	A
13	C
14	A
15	A
16	B
17	C
18	A
19	B
20	B
21	C
22	B
23	B
24	B
25	B
26	B
27	B
28	C
29	C
30	C
31	C
32	C
33	A
34	C

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
STAIR FOUNDATION SF1	NIM	2	5775	010	DQ	3
PLATFORN FOUNDATION PF1	NIM	2	5775	007	DQ	1
COLLECTION PIT G.A.	NIM	2	5774	006	DQ	3
FLANGE PIT G.A.	NIM	2	5774	005	DQ	1
PIPE SUPPORTS INDEX SHEET	NIM	2	5772	032	DQ	3

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
STAIR FOUNDATION SF1	NIM	2	5852	059	CN	3
CROSSOVER FOUNDATION MK'D CF4	NIM	2	5852	063	CN	3
CROSSOVER FOUNDATION MK'D CF3	NIM	2	5852	061	CN	3
PIPE SUPPORTS INDEX SHEET	NIM	2	5853	001	CN	1
G.A. & DET. OF RETAINING WALL	NIM	2	1466	004	CN	1
PIPETRACK SLEEPER LAYOUT-LAUNCHER/RECEIVER AREA	NIM	2	5167	001		1
PIPETRACK SLEEPER LAYOUT-HEATING SYSTEM AREA	NIM	2	5165	001		1
PIPETRACK SLEEPER LAYOUT-HEATING SYSTEM AREA	NIM	2	5164	001		1
PIPETRACK SLEEPER LAYOUT-TANKAGE AREA	NIM	2	5163	001		1
PIPETRACK SLEEPER LAYOUT-TANKAGE AREA	NIM	2	5162	001		1
PIPETRACK SLEEPER LAYOUT-FWKO TANKAGE AREA	NIM	2	5161	001		1
PIPETRACK SLEEPER LAYOUT-CPI AREA	NIM	2	5160	001		1
PIPETRACK SLEEPER LAYOUT-LOCATION PLAN	NIM	2	5159	001		1

DRAWING NUMBER

NOTES

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
KEY PLAN FOR FOUNDATION LOCATION PLAN	NIM	2	5159	001		1
V-48122 FOUND. DET.	NIM	2	2334	001		1
DET. OF VALVE PIT VP-1	NIM	2	2342	001		1
PIPE SLEEPERS	NIM	2	2344	001		3
PIPE SUPPORT DET.	NIM	2	2343	001		3
FOUNDATION FOR PLTF-2	NIM	2	2338	001		1

REV	DATE	APPROVED BY	DESCRIPTION	WBS.NO.	PROJ.ENG.	SPEC.ENG.
H	NOV '08		AS BUILT FOR PROJECT '3Y'	07.08.005		
G	DEC.'04		AS BUILT FOR PROJECT '5X'	02.001		
F	JAN'00		AS BUILT FOR PROJ. '1D'	98.134	ONE/24	
E	APR'94		AS BUILT AS PER SITE MARK-UP	93.750		
D	DEC'92		AS BUILT UP TO MAY'92	90.589		
C	14.02.88		AS BUILT			

PDO APPROVAL

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

وورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP 00405

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAM L.	CHECKED J.ENG.	DESCRIPTION	WBS NO	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/2BN	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/2BN	

P D O APPROVAL

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

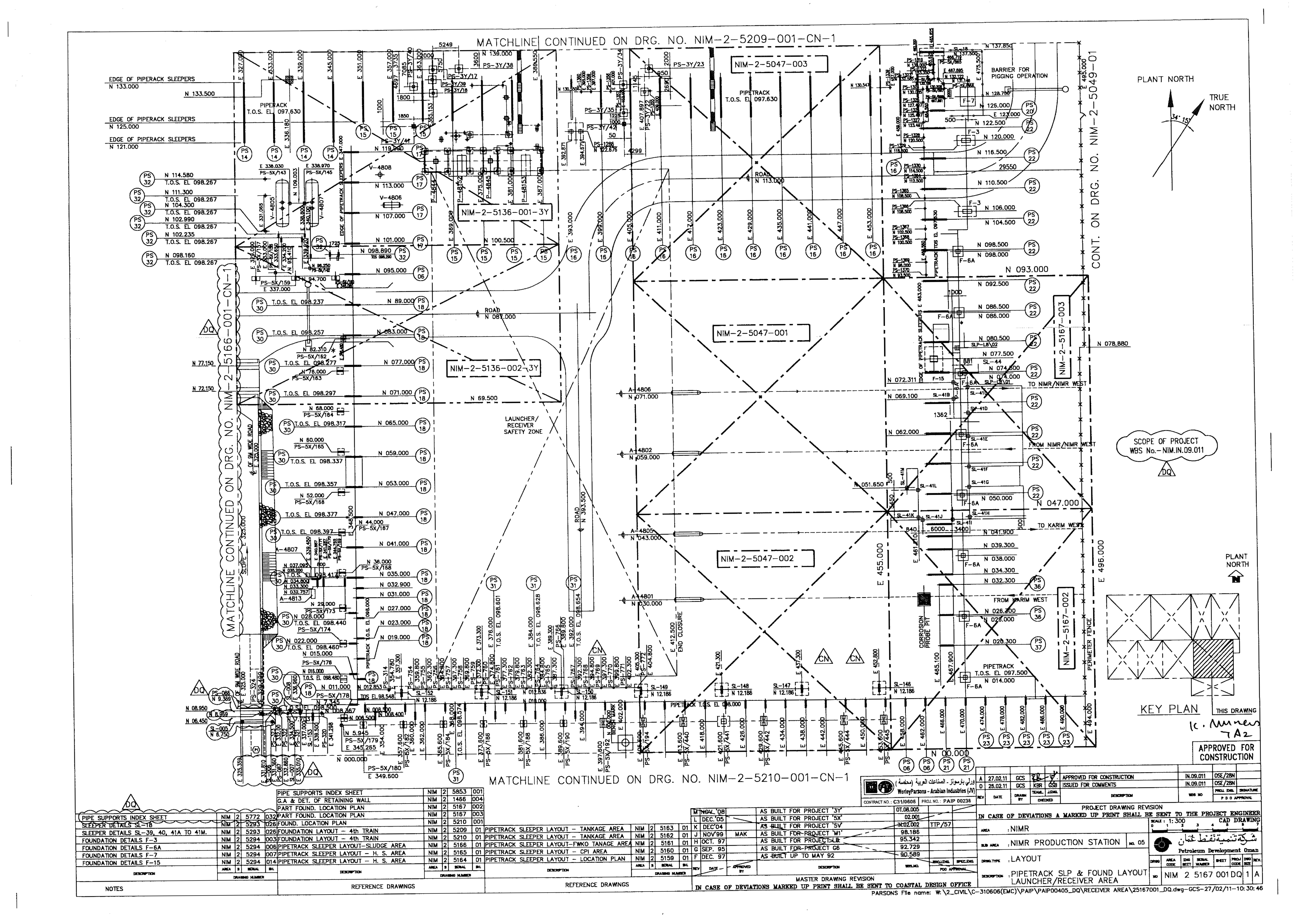
SCALE: 1:300 CAD DRAWING

AREA : NIMR
SUB AREA : NIMR PRODUCTION STATION NO. 05
DRWG.TYPE : LAYOUT
DESCRIPTION : PIPETRACK SLEEPER LAYOUT SLUDGE SYSTEM AREA

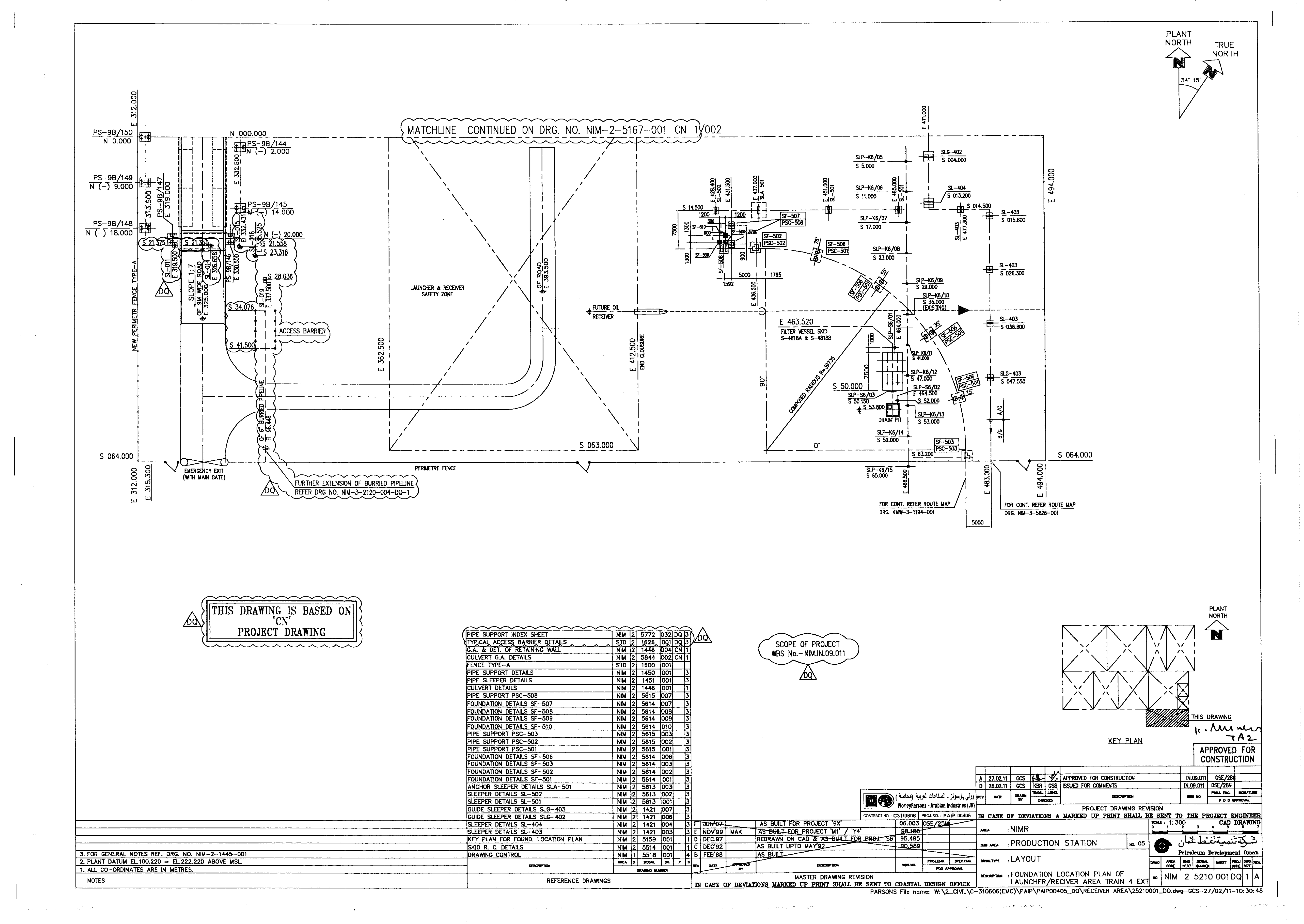
شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5166	001	DQ	1	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25166001_DQ.dwg-GCS-27/02/11-10:30:43



MATCHLINE CONTINUED ON DRG. NO. NIM-2-5209-001-CN-1
MATCHLINE CONTINUED ON DRG. NO. NIM-2-5210-001-CN-1
MATCHLINE CONTINUED ON DRG. NO. NIM-2-5166-001-CN-1
CONT. ON DRG. NO. NIM-2-5049-01
EDGE OF PIPERACK SLEEPERS N 133.000
EDGE OF PIPERACK SLEEPERS N 125.000
EDGE OF PIPERACK SLEEPERS N 121.000
PIPERACK T.O.S. EL 097.630
PIPETRACK T.O.S. EL 097.630
PIPETRACK T.O.S. EL 097.500
NIM-2-5047-003
NIM-2-5047-001
NIM-2-5047-002
NIM-2-5136-001-3Y
NIM-2-5136-002-3Y
NIM-2-5167-003
NIM-2-5167-002
BARRIER FOR PIGGING OPERATION
LAUNCHER/ RECEIVER SAFETY ZONE
ROAD N 113.000
ROAD N 087.000
ROAD N 393.500
END CLOSURE
CORROSION PROBE PIT
PERIMETER FENCE
TO NIMR/NIMR WEST
FROM NIMR/NIMR WEST
TO KARIM WEST
FROM KARIM WEST
E 455.000
E 496.000
N 093.000
N 047.000
N 00.000
PLANT NORTH
TRUE NORTH
34° 15'
SCOPE OF PROJECT WBS No.-NIM.IN.09.011
KEY PLAN
THIS DRAWING
APPROVED FOR CONSTRUCTION
PIPE SUPPORTS INDEX SHEET — NIM 2 5772 032
SLEEPER DETAILS SL-18 — NIM 2 5293 026
SLEEPER DETAILS SL-39, 40, 41A TO 41M. — NIM 2 5293 026
FOUNDATION DETAILS F-3 — NIM 2 5294 003
FOUNDATION DETAILS F-6A — NIM 2 5294 006
FOUNDATION DETAILS F-7 — NIM 2 5294 007
FOUNDATION DETAILS F-15 — NIM 2 5294 014
NOTES
PIPE SUPPORTS INDEX SHEET — NIM 2 5853 001
G.A & DET. OF RETAINING WALL — NIM 2 1466 004
PART FOUND. LOCATION PLAN — NIM 2 5167 002
PART FOUND. LOCATION PLAN — NIM 2 5167 003
FOUND. LOCATION PLAN — NIM 2 5210 001
FOUNDATION LAYOUT - 4th TRAIN — NIM 2 5209 01
FOUNDATION LAYOUT - 4th TRAIN — NIM 2 5210 01
PIPETRACK SLEEPER LAYOUT-SLUDGE AREA — NIM 2 5166 01
PIPETRACK SLEEPER LAYOUT - H. S. AREA — NIM 2 5165 01
PIPETRACK SLEEPER LAYOUT - H. S. AREA — NIM 2 5164 01
REFERENCE DRAWINGS
PIPETRACK SLEEPER LAYOUT - TANKAGE AREA — NIM 2 5163 01
PIPETRACK SLEEPER LAYOUT - TANKAGE AREA — NIM 2 5162 01
PIPETRACK SLEEPER LAYOUT-FWKO TANAGE AREA — NIM 2 5161 01
PIPETRACK SLEEPER LAYOUT - CPI AREA — NIM 2 5160 01
PIPETRACK SLEEPER LAYOUT - LOCATION PLAN — NIM 2 5159 01
REFERENCE DRAWINGS
M NOV.'08 AS BUILT FOR PROJECT '3Y' 07.08.005
L DEC.'05 AS BUILT FOR PROJECT '5X' 02.001
K DEC'04 AS BUILT FOR PROJECT '5V' IN.02.002 TTP/57
J NOV'99 MAK AS BUILT FOR PROJECT 'M1' 98.186
H OCT. 97 AS BUILT FOR PROJECT LB 95.342
G SEP. 95 AS BUILT FOR PROJECT G6 92.729
F DEC. 97 AS BUILT UP TO MAY 92 90.589
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
WorleyParsons - Arabian Industries (JV)
ورلي بارسونز - الصناعات العربية (محدودة)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP 00238
A 27.02.11 GCS KBR GSB APPROVED FOR CONSTRUCTION IN.09.011 OSE/28N
0 26.02.11 GCS KBR GSB ISSUED FOR COMMENTS IN.09.011 OSE/28N
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE 1:300 CAD DRAWING
AREA: NIMR
SUB AREA: NIMR PRODUCTION STATION No. 05
DRWG. TYPE: LAYOUT
DESCRIPTION: PIPETRACK SLP & FOUND LAYOUT LAUNCHER/RECEIVER AREA
شركة تنمية نفط عمان
Petroleum Development Oman
NIM 2 5167 001 DQ 1 A
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25167001_DQ.dwg-GCS-27/02/11-10:30:46



DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPE SUPPORT INDEX SHEET	NIM	2	5772	032	DQ	3
TYPICAL ACCESS BARRIER DETAILS	STD	2	1626	001	DQ	3
G.A. & DET. OF RETAINING WALL	NIM	2	1446	004	CN	1
CULVERT G.A. DETAILS	NIM	2	5844	002	CN	1
FENCE TYPE-A	STD	2	1600	001		
PIPE SUPPORT DETAILS	NIM	2	1450	001		3
PIPE SLEEPER DETAILS	NIM	2	1451	001		3
CULVERT DETAILS	NIM	2	1446	001		1
PIPE SUPPORT PSC-508	NIM	2	5615	007		3
FOUNDATION DETAILS SF-507	NIM	2	5614	007		3
FOUNDATION DETAILS SF-508	NIM	2	5614	008		3
FOUNDATION DETAILS SF-509	NIM	2	5614	009		3
FOUNDATION DETAILS SF-510	NIM	2	5614	010		3
PIPE SUPPORT PSC-503	NIM	2	5615	003		3
PIPE SUPPORT PSC-502	NIM	2	5615	002		3
PIPE SUPPORT PSC-501	NIM	2	5615	001		3
FOUNDATION DETAILS SF-506	NIM	2	5614	006		3
FOUNDATION DETAILS SF-503	NIM	2	5614	003		3
FOUNDATION DETAILS SF-502	NIM	2	5614	002		3
FOUNDATION DETAILS SF-501	NIM	2	5614	001		3
ANCHOR SLEEPER DETAILS SLA-501	NIM	2	5613	003		3
SLEEPER DETAILS SL-502	NIM	2	5613	002		3
SLEEPER DETAILS SL-501	NIM	2	5613	001		3
GUIDE SLEEPER DETAILS SLG-403	NIM	2	1421	007		3
GUIDE SLEEPER DETAILS SLG-402	NIM	2	1421	006		3
SLEEPER DETAILS SL-404	NIM	2	1421	004		3
SLEEPER DETAILS SL-403	NIM	2	1421	003		3
KEY PLAN FOR FOUND. LOCATION PLAN	NIM	2	5159	001		1
SKID R. C. DETAILS	NIM	2	5514	001		1
DRAWING CONTROL	NIM	1	5518	001		4

REFERENCE DRAWINGS (DRAWING NUMBER)

NOTES
1. ALL CO-ORDINATES ARE IN METRES.
2. PLANT DATUM EL.100.220 = EL.222.220 ABOVE MSL.
3. FOR GENERAL NOTES REF. DRG. NO. NIM-2-1445-001

REV	DATE	APPROVED BY	DESCRIPTION	WBS.NO.	PROJ.ENG.	SPEC.ENG.
F	JUN'07		AS BUILT FOR PROJECT '9X'	06.003	OSE/25M	
E	NOV'99	MAK	AS BUILT FOR PROJECT 'M1' / 'Y4'	98.180		
D	DEC.97		REDRAWN ON CAD & AS BUILT FOR PROJ. 'S6'	95.495		
C	DEC'92		AS BUILT UPTO MAY'92	90.589		
B	FEB'88		AS BUILT			

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

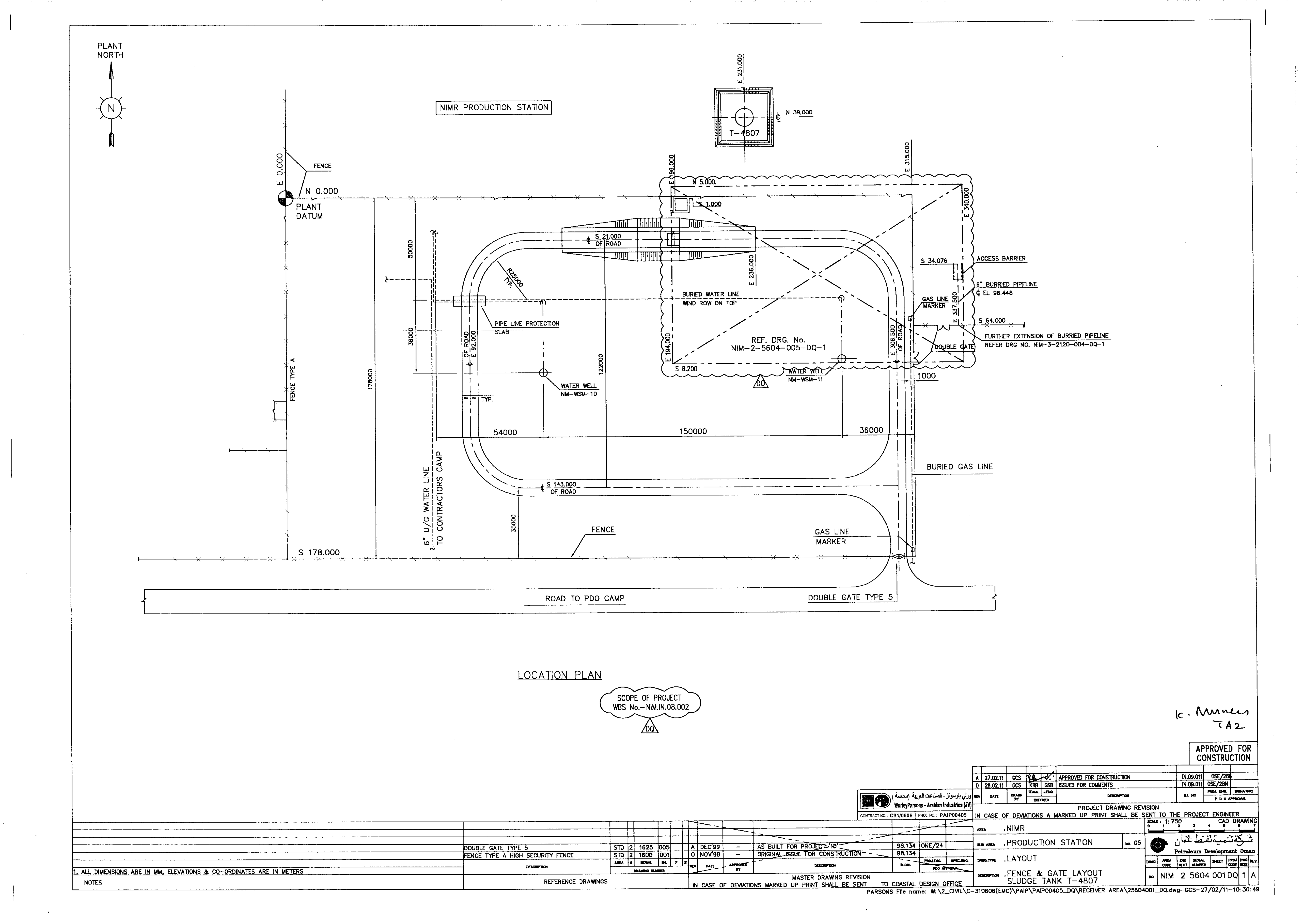
WorleyParsons - Arabian Industries (JV)
ورلي بارسونز - الصناعات العربية (محاصة)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP 00405

REV	DATE	DRAWN BY	TEAM.	LENG.	DESCRIPTION	WBS NO	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

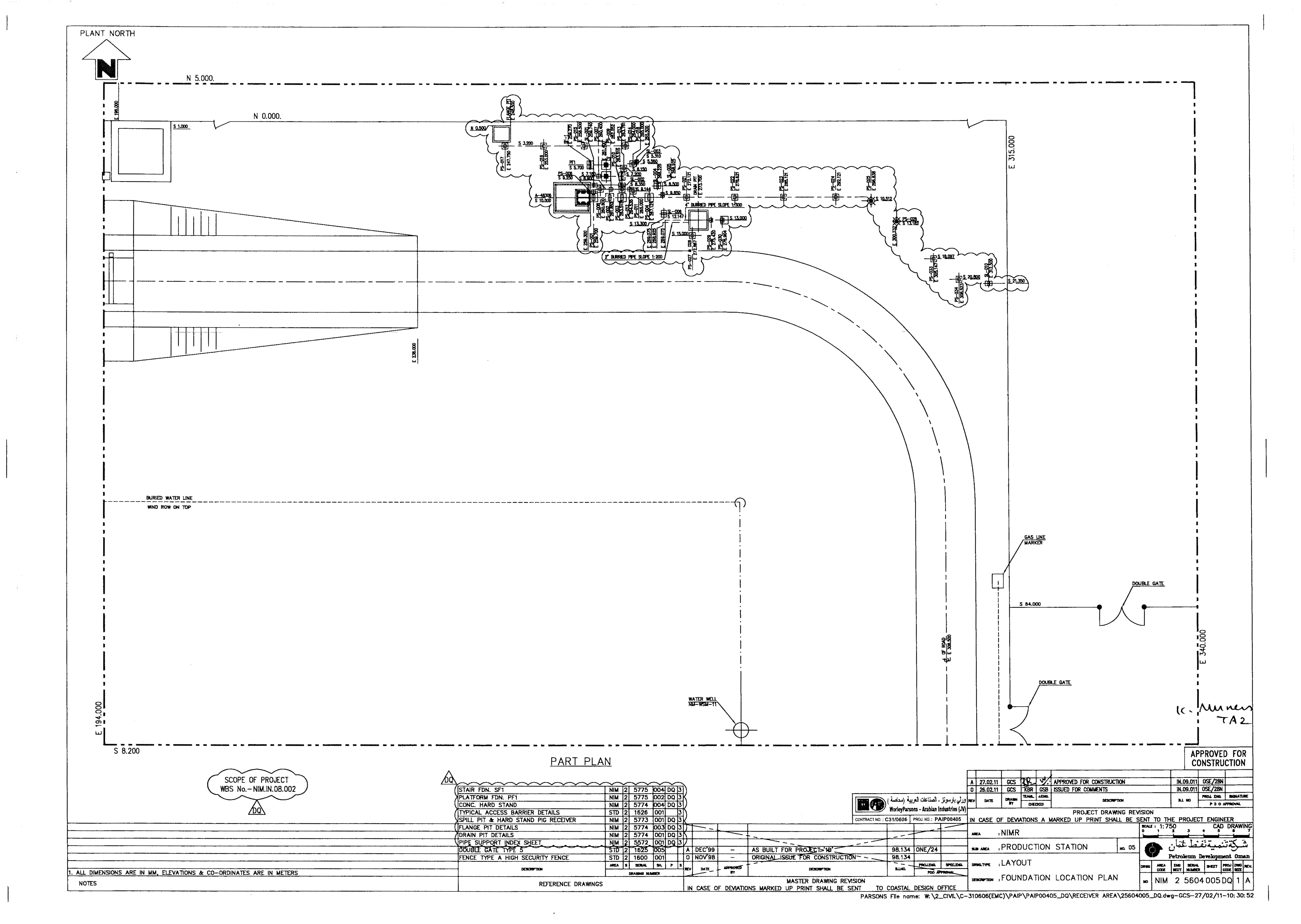
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

AREA: NIMR
SUB AREA: PRODUCTION STATION NO. 05
DRWG.TYPE: LAYOUT
DESCRIPTION: FOUNDATION LOCATION PLAN OF LAUNCHER/RECIVER AREA TRAIN 4 EXT
SCALE: 1:300 CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
NO: NIM 2 5210 001 DQ 1 A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25210001_DQ.dwg-GCS-27/02/11-10:30:48



PLANT NORTH
N
NIMR PRODUCTION STATION
E 231.000
N 39.000
T-4807
E 0.000
FENCE
N 0.000
PLANT DATUM
E 196.000
N 5.000
S 1.000
E 315.000
E 340.000
S 21.000 OF ROAD
R25000 TYP.
E 236.000
50000
S 34.076
ACCESS BARRIER
6" BURRIED PIPELINE
EL 96.448
BURIED WATER LINE
WIND ROW ON TOP
GAS LINE MARKER
E 337.500
S 64.000
PIPE LINE PROTECTION SLAB
36000
OF ROAD E 92.000
122000
E 194.000
REF. DRG. No. NIM-2-5604-005-DQ-1
E 306.500 OF ROAD
FURTHER EXTENSION OF BURRIED PIPELINE
REFER DRG NO. NIM-3-2120-004-DQ-1
DOUBLE GATE
S 8.200
WATER WELL NM-WSM-11
1000
DQ
FENCE TYPE A
178000
WATER WELL NM-WSM-10
TYP.
54000
150000
36000
BURIED GAS LINE
6" U/G WATER LINE TO CONTRACTORS CAMP
S 143.000 OF ROAD
35000
FENCE
GAS LINE MARKER
S 178.000
ROAD TO PDO CAMP
DOUBLE GATE TYPE 5
LOCATION PLAN
SCOPE OF PROJECT
WBS No.-NIM.IN.08.002
DQ
k. Munes TA2
APPROVED FOR CONSTRUCTION
A 27.02.11 GCS APPROVED FOR CONSTRUCTION IN.09.011 OSE/28
0 26.02.11 GCS KBR GSB ISSUED FOR COMMENTS IN.09.011 OSE/28N
REV DATE DRAWN BY TEAM. LENG. CHECKED DESCRIPTION B.I. NO PROJ. ENG. SIGNATURE P D O APPROVAL
وورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE: 1:750
CAD DRAWING
AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG. TYPE : LAYOUT
DESCRIPTION : FENCE & GATE LAYOUT SLUDGE TANK T-4807
NO NIM 2 5604 001 DQ 1 A
شركة تنمية نفط عمان
Petroleum Development Oman
DOUBLE GATE TYPE 5 STD 2 1625 005
FENCE TYPE A HIGH SECURITY FENCE STD 2 1600 001
DESCRIPTION AREA S SERIAL SH. P S DRAWING NUMBER
REFERENCE DRAWINGS
A DEC'99 - AS BUILT FOR PROJECT 98.134 ONE/24
0 NOV'98 - ORIGINAL ISSUE FOR CONSTRUCTION 98.134
REV DATE APPROVED BY DESCRIPTION B.I.NO. PROJ.ENG. SPEC.ENG. PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
1. ALL DIMENSIONS ARE IN MM, ELEVATIONS & CO-ORDINATES ARE IN METERS
NOTES
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25604001_DQ.dwg-GCS-27/02/11-10:30:49



DESCRIPTION	AREA	S	SERIAL	SH.	P	S
STAIR FDN. SF1	NIM	2	5775	004	DQ	3
PLATFORM FDN. PF1	NIM	2	5775	002	DQ	3
CONC. HARD STAND	NIM	2	5774	004	DQ	3
TYPICAL ACCESS BARRIER DETAILS	STD	2	1626	001		3
SPILL PIT & HARD STAND PIG RECEIVER	NIM	2	5773	001	DQ	3
FLANGE PIT DETAILS	NIM	2	5774	003	DQ	3
DRAIN PIT DETAILS	NIM	2	5774	001	DQ	3
PIPE SUPPORT INDEX SHEET	NIM	2	5572	001	DQ	3
DOUBLE GATE TYPE 5	STD	2	1625	005		
FENCE TYPE A HIGH SECURITY FENCE	STD	2	1600	001		

REFERENCE DRAWINGS

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
A	DEC'99	–	AS BUILT FOR PROJECT-'18'	98.134	ONE/24	
0	NOV'98	–	ORIGINAL ISSUE FOR CONSTRUCTION	98.134		

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

1. ALL DIMENSIONS ARE IN MM, ELEVATIONS & CO-ORDINATES ARE IN METERS

NOTES

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

REV	DATE	DRAWN BY	CHECKED TEAM L.	CHECKED L.ENG.	DESCRIPTION	B.I. NO	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/2BN	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/2BN	

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG.TYPE : LAYOUT
DESCRIPTION : FOUNDATION LOCATION PLAN

SCALE : 1:750 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5604	005	DQ	1	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25604005_DQ.dwg-GCS-27/02/11-10:30:52

1.0 GENERAL NOTES

1.1 ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH CONSTRUCTION CONTRACT AND / OR CIVIL AND BUILDING CONSTRUCTION SPECIFICATIONS SP-1279 AND GUIDE TO CONCRETE CONSTRUCTION SP-1282.

1.2 ALL DIMENSIONS ARE IN MILLIMETERS EXCEPT FOR PIPE SIZES WHICH ARE SHOWN IN INCHES.

1.3 ALL ELEVATIONS ARE IN METERS AND RELATED TO DATUM ELEVATION OF 100.000

2.0 EXCAVATION, TRENCHING AND BACKFILL

2.1 BACKFILL FOR FOUNDATIONS, WALLS, TRENCHES AND SITE GRADING SHALL BE PLACED IN EVEN LAYERS (SUCH THAT COMPACTED THICKNESS DOES NOT EXCEED 150mm) AND THE FULL WIDTH OF THE FORMATION. THE FILL SHALL BE GRADED AS SHOWN BELOW.

BS SEIVE SIZE	% PASSING BY WEIGHT
50.00 mm	100%
9.50 mm	60%-100%
5.00 mm	50%-85%
2.00 mm	40%-70%
425 µm	25%-45%
75 µm	8%-15%

ALL FILL MATERIAL INCLUDING SUBGRADE AND VERGES SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY OBTAINED IN THE MODIFIED AASHTO COMPACTION TEST.

2.2 ALL UNDERGROUND CABLES EXCEPT EARTHING CABLES SHALL BE LAID AT A MINIMUM DEPTH OF 600mm.

2.3 INSTRUMENTATION CABLES SHALL NOT BE LAID IN THE SAME TRENCH WITH POWER AND LIGHTING CABLES.

2.4 ALL BURIED CABLES SHALL BE LAID IN SUCH A WAY THAT THE FILLING MATERIAL WITHIN 100mm FROM THE CABLES SHALL BE FREE OF STONES OR OTHER MATERIALS WHICH MAY DAMAGE THE CABLES. SUITABLE FILL, SUCH AS CLEAN SMALL-GRAINED SAND SHALL BE USED FOR THIS PURPOSE. THE CABLES SHALL BE PROTECTED BY SUITABLE SLABS OR TILES WHICH SHALL FORM A CONTINUOUS BUT REMOVABLE COVERING 200mm ABOVE THE HIGHEST CABLE.

2.5 WHERE CROSSING OF INSTRUMENTATION WITH POWER AND LIGHTING CABLES IS UNAVOIDABLE,INSTRUMENTATION CABLE SHALL BE LAID ABOVE AND SHALL BE KEPT AT A MINIMUM DISTANCE OF 750mm FROM POWER AND LIGHTING CABLES.

3.0 FOUNDATION WORKS

3.1 THE FOUNDATIONS FOR BUILDINGS, EQUIPMENT, STEEL STRUCTURES AND PIPE SUPPORTS WHEREVER SPECIFIED ON DRAWINGS SHALL BE LAID ON 2 COATS OF FOSROC'S 'NITOCOTE PE 135' GLASS MAT SPREAD OVER BLINDING CONCRETE. THE SIDES AND TOP OF CONCRETE FOUNDATION IN CONTACT WITH SOIL AND UPTO 250mm ABOVE GRADE SHALL BE APPLIED WITH FOSROC'S 'NITOCOTE PE 135' IN 2 COATS WITH EACH COAT MEASURING 600 MICRON THICKNESS.WHILE THE FIRST COAT IS STILL WET, APPLY 120-150 gsm GLASS MAT ON THE SURFACE AND ROLL OVER TO ENSURE THE MAT IS FULLY EMBEDDED. MASTER SEAL 550 MANUFACTURED BY DEGUSSA OR ANY OTHER PDO APPROVED EQUIVALENT IN PLACE OF 'NITOCOTE PE 135'. APPLICATION SHALL BE AS PER RESPECTIVE MANUFACTURER'S INSTRUCTIONS.

3.2 BEFORE POURING CONCRETE, THE FIELD SHALL MAKE PROVISION FOR THE INSTALLATION OF ALL UNDERGROUND SERVICES AFFECTED BY THE FOUNDATIONS.

3.3 BEFORE CASTING FOUNDATIONS, ANY IMMEDIATE OR ADJACENT AREAS OF DISTURBED OR SOFT SOIL MUST BE REMOVED AND REPLACED WITH MASS CONCRETE OF GRADE 10.

3.4 ALL EXPOSED PORTIONS OF FOUNDATION CONCRETE AND INSIDE SURFACES OF RCC PITS, WHEREVER NOT SPECIFICALLY SPECIFIED, SHALL BE COATED WITH 'FOSROC DEKGUARD S' OR EQUIVALENT.

4.0 CONCRETE

4.1 ALL CONCRETE WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH CODE OF PRACTICE FOR THE STRUCTURAL USE OF CONCRETE:BS 8110 INCLUDING ALL RELATED CODES FOR PLACING, MIXING, CURING AND TESTING.

4.2 A LAYER OF BLINDING CONCRETE 50mm THK SHALL BE PLACED UNDER ALL FOUNDATIONS. BLINDING CONCRETE SHALL HAVE A CHARACTERISTIC STRENGTH OF 10 N/mm² AT 28 DAYS.

4.3 ALL CONCRETE WITH THE EXCEPTION OF BLINDING CONCRETE SHALL OF GRADE AS SPECIFIED IN THE RESPECTIVE DETAILED DRAWINGS AND SHALL NOT BE LOWER THAN GRADE 35 CONCRETE WITH 'CORTEC MCI 2005' CORROSION INHIBITOR AT A RATE OF 0.6 lit/m³ OR EQUIVALENT. MIXING SHALL BE AS PER MANUFACTURER INSTRUCTIONS.

4.4 FOR ALL CONCRETE WORKS, ORDINARY PORTLAND CEMENT TO BS EN 197 SHALL BE USED, UNLESS OTHERWISE SPECIFIED.
MAXIMUM FREE WATER CEMENT RATIO SHALL BE 0.45
MINIMUM CEMENT CONTENT FOR 20mm AGGREGATE SHALL BE 370 kg/m³.
FOR 40mm AGGREGATE SHALL BE 340 kg/m³.

4.5 ALL EDGES OF EXPOSED AND BURIED CONCRETE MEMBERS SHALL HAVE CHAMFER OF APPROXIMATELY 25mm.

4.6 HOT-ROLLED DEFORMED HIGH-YIELD BARS GRADE 460 WITH A SPECIFIED CHARACTERISTIC STRENGTH OF 460 N/mm² SHALL BE USED AS REINFORCEMENT FOR ALL CONCRETE WORKS. HOT-ROLLED MILD STEEL BARS GRADE 250 WITH A SPECIFIED CHARACTERISTIC STRENGTH OF 250 N/mm² SHALL BE USED WHERE SPECIFIED.

4.7 NOMINAL COVER TO ALL REINFORCEMENT (INCLUDING LINKS) UNLESS SPECIFIED OTHERWISE SHALL BE

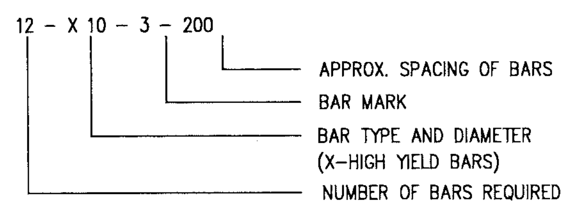
1) FOUNDATIONS, COLUMNS, BEAMS, SLABS AND WALLS IN CONTACT WITH SOIL OR EXPOSED TO WEATHER. - 50 mm
2) COLUMNS, BEAMS AND WALLS NEITHER IN CONTACT WITH SOIL NOR EXPOSED TO WEATHER. - 40 mm
3) BUILDING FLOOR SLABS & ROOF SLABS - 25 mm

4.8 UNLESS NOTED OTHERWISE ON THE DRAWING FOLLOWING MINIMUM LAP LENGTHS SHALL BE USED.

SIZE	LAP LENGTH *
T8	450
T10	550
T12	650
T16	850
T20	1050
T25	1300
T32	1650

* - SPECIFIED TO THE NEAREST 25 mm.

4.9 LEGEND FOR REINFORCEMENT OF HOT-ROLLED MILD STEEL AND HOT ROLLED DEFORMED HIGH YIELD STRESS BARS.



5.0 ANCHOR BOLTS

5.1 ALL ANCHOR BOLTS AND NUTS SHALL CONFORM TO A 307-B OR DIN 267 4.6 OR BS 970 070 M20 UNLESS SPECIFIED OTHERWISE. ALL WASHERS SHALL BE ACCORDING TO BS 4320. ALL THREADING SHALL BE ISO METRIC THREAD CONFORMING TO BS 3643.

5.2 ALL PROJECTIONS OF HOLDING DOWN BOLTS (ANCHOR BOLTS) ARE TAKEN FROM TOP OF ROUGH CONCRETE.

5.3 STYROPOR OR SIMILAR APPROVED MATERIAL FOR FORMING THE (ANCHOR) BOLT POCKETS SHALL BE SECURED AGAINST ANY MOVEMENT DURING CONSTRUCTION AND REMOVED AS SOON AS THE CONCRETE IS SET.

6.0 GROUTING

6.1 ALL GROUTING REQUIRES PRIOR APPROVAL BY ENGINEER BEFORE GROUTING. THE SURFACE SHALL BE CLEANED AND SOAKED WITH WATER.

6.2 GROUT MORTAR SHALL CONSIST OF ONE PART OF ORDINARY PORTLAND CEMENT AND TWO PARTS OF SAND WITH WATER CEMENT RATIO NOT EXCEEDING 0.4.

6.3 GROUT MORTAR SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 40 N/mm².

6.4 WHERE REQUIRED AND INDICATED ON THE DRAWINGS, A NON-SHRINK GROUT SHALL BE PREPARED AND APPLIED STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

LEGEND

- ROCK FILL
- WELL GRADED COMPACTED SAND
- BLINDING LAYER 50 mm THK.
- STYROFOM OR OTHER INSULATING MATERIAL
- FIBRE MAT OR BUILDING PAPER
- SLOPE
- CHEQUER PLATE
- GRATING
- HOLE
- POCKET OR RECESS
- ELECTRICAL TRENCHES
- INSTRUMENT TRENCHES
- ELEVATION
- FENCE
- GRADE
- ANCHOR BOLT
- PIPE OR SLEEVE
- CONSTRUCTION JOINT
- WATERSTOP
- SPAN DIRECTION
- (A) MATERIAL ITEM

ABBREVIATIONS

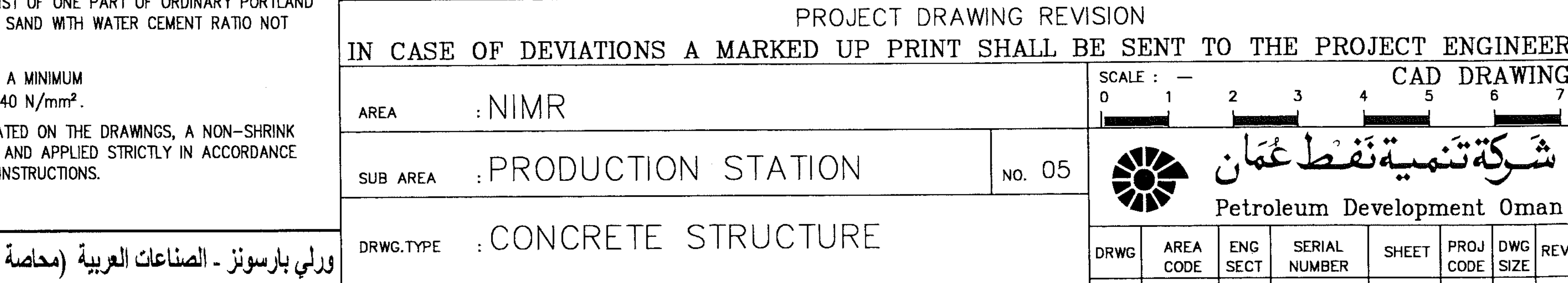
AB DENOTES	ANCHOR BOLTS
ALT	ALTERNATE
APPROX	APPROXIMATE
BTF	BOTTOM FACE
BOC	BOTTOM OF CONCRETE
BOS	BOTTOM OF STEEL
℄	CENTRE LINE
CTC	CENTRE TO CENTRE
CONC	CONCRETE
DIA	DIAMETER
DWG / DRG	DRAWING
EF	EACH FACE
EL / ELEV	ELEVATION
ES	EVENLY SPACED
FF	FAR FACE
FFL	FINISHED FLOOR LEVEL
FP	FIXED POINT
FDN / FOUND	FOUNDATION
GRD	GRADE LEVEL
GL	GROUND LEVEL
HP	HIGH POINT
ID	INSIDE DIAMETER
LG	LONG OR LENGTH
LP	LOW POINT
MK	MARK
MKD	MARKED
NF	NEAR FACE
Ø	DIAMETER

ABBREVIATIONS

OD	OUTSIDE DIAMETER
PTFE	POLYTETRAFLUORETHYLENE
RAD	RADIUS
REV	REVISION
SCHED	SCHEDULE
SECT/SEC	SECTION
SP	SLIDING POINT
STGD	STAGGERED
TF	TOP FACE
TOC	TOP OF CONCRETE
TOG	TOP OF GRATING
TORC	TOP OF ROUGH CONCRETE
TOS	TOP OF STEEL
TYP	TYPICAL

K. Muner
TA2

APPROVED FOR CONSTRUCTION



REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG. (P D O APPROVAL)	SIGNATURE (P D O APPROVAL)
A	27.02.11	GCS	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

AREA : NIMR

SUB AREA : PRODUCTION STATION — NO. 05

DRWG.TYPE : CONCRETE STRUCTURE

DESCRIPTION : GENERAL NOTES, LEGEND AND ABBREVIATIONS

SCALE : — CAD DRAWING
0 1 2 3 4 5 6 7

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5771	001	DQ	3	A

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25771001_DQ.dwg-GCS-27/02/11-10:30:53

1.0 GENERAL NOTES.

1.1 ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH CONSTRUCTION CONTRACT AND / OR CONSTRUCTION SPECIFICATION SP-1279.

1.2 ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT FOR PIPE SIZES WHICH ARE SHOWN IN INCHES.

1.3 ALL ELEVATIONS ARE IN METERS AND RELATED TO DATUM ELEVATION OF 100.000

2.0 STRUCTURAL STEEL MATERIAL

2.1 STEEL STRUCTURE SHALL BE FABRICATED IN ACCORDANCE WITH GOOD WORKING PRACTICE, MATERIALS, WORKMANSHIP AND TESTING GENERALLY SHALL COMPLY WITH BS 5950 PART-1,2000.

2.2 STRUCTURAL STEEL SHALL COMPLY WITH THE FOLLOWING MATERIAL REQUIRMENT. GRADE S275 JR COMPLYING WITH BS EN 10025 PART 1 & 3.

2.3 STRUCTURAL STEEL SHALL COMPLY WITH THE REQUIRMENT OF BS 5950, PART-1, IN ADDITION STRUCTURAL STEEL HOT ROLLED SECTIONS SHALL COMPLY WITH THE REQUIRMENTS OF BS 4 PART-1,1993 AND PART-2,1969 AND FOR ANGLES BS EN 10056-1:1999 (METRIC DIMENSIONS). PIPES USED FOR STRUCTURAL PURPOSE SHALL COMPLY WITH ASTM A 106 GRADE B, OR AS SPECIFIED ON THE DRAWINGS.

3.0 BOLTING

3.1 BOLTS AND NUTS SHALL HAVE ISO - METRIC COARSE THREAD.

3.2 MILD STEEL BOLTS, NUTS AND WASHERS SHALL COMPLY WITH THE REQUIREMENT OF BS 5950 PART-1,BS 4190 AND BS 4320.

3.3 WASHERS ARE TO BE PROVIDED UNDER ALL NUTS ON BEVELLED SURFACES SQUARE TAPER WASHERS OF 5 mm MEAN THICKNESS SHALL BE PROVIDED UNDER NUT OR HEAD AS APPROPRIATE.

4.0 WELDING

4.1 WELDING USED IN THE FABRICATION WORK IS TO BE BY THE METALLIC ARC PROCESS USING ELECTRODES COMPLYING WITH THE REQUIREMENTS OF BS 639.THE WHOLE OF THE WORK IS TO BE IN ACCORDANCE WITH THE REQUIRMENTS LAID DOWN IN BS 5950 AND 5135.

4.2 THE ENDS OF ALL STANCHIONS AND POSTS TOGETHER WITH GUSSETS WHERE PRESENT AND ALREADY WELDED ON, SHALL BE MACHINED SO THAT THE WHOLE AREA IS IN DIRECT CONTACT WITH THE BASE, BEARING OR CAP PLATE, SUCH PLATES BEING TRULY AT RIGHT ANGLES TO THE STANCHION AXIS OR AS OTHERWISE SPECIFIED ON THE DRAWING.

4.3 MINIMUM SIZE OF WELD SHALL BE 6 mm UNLESS SPECIFIED.

5.0 FLOORING AND GRATING

5.1 STAIR TREADS SHALL BE OF HOT DIP GALVANIZED GRATING.

5.2 SOLID FLOORING SHALL BE MADE OF TEAR PLATE (DURBAR OR EQUIVALENT).

5.3 CHEQUERED PLATE SHALL NOT BE USED FOR PLATFORMS IN OIL AND GAS PROCESSING PLANTS. HOWEVER CHEQUERED PLATE FLOORING IS PERMITTED TO BE USED AS TRENCH COVERING WITHIN CONTROL BUILDINGS AND ELECTRICAL SUBSTATIONS.

5.4 FOR OPEN FLOORING GALVANISED GRATING SHALL BE USED. THE MAIN BARS OF THE GRATING SHALL BE 25x5mm MINIMUM AT A CENTRE LINE SPACING OF 33 mm. LATERAL RESTRAINT SHALL BE PROVIDED BY 6 mm SQUARE TRANSVERSE BARS AT A SPACING OF 33 mm, WELDED INTO THE UPPER EDGE OF THE MAIN BARS. FIXING MATERIAL SHALL BE HOT DIP GALVANIZED TO BS EN ISO 1461:1999

6.0 ERECTION

6.1 ERECTION ON CONCRETE FOUNDATION SHALL NOT COMMENCE WITHIN 7 DAYS OF POURING THE CONCRETE FOUNDATIONS AND ONLY IF THE CONCRETE HAS ACQUIRED SUFFICIENT STRENGTH.

6.2 THE CONTRACTOR SHALL PROPERLY ALIGN EACH PART OF THE STRUCTURE BEFORE MAKING THE FIELD CONNECTIONS.

6.3 THE CONTRACTOR SHALL ENTIRELY BE RESPONSIBLE FOR THE STABILITY OF THE STEELWORK DURING ERECTION AND HE SHALL ARRANGE FOR ALL TEMPORARY GUYING, BRACING AND SUPPORTS TOGETHER WITH ANY ADDITIONAL TACK BOLTS NECESSARY FOR THE STABILITY OF THE STEELWORK UNTIL FINAL BOLTING UP.

6.4 THE STEELWORK SHALL BE ACCURATELY ERECTED WITHIN THE FOLLOWING TOLERANCE.

SETTING OUT-PLAN DIMENSIONS	±10mm OVERALL BUILDING BUT NOT MORE THAN ±5mm IN ANY ONE 5 METER BAY
LEVELS-FOR STANCHIONS AND COLUMN BASE PLATES.	±5mm
PLUMB OF STANCHIONS, POSTS, ETC	0.1 % OF HEIGHT, BUT NOT MORE THAN ±5 mm OVERALL.
STRAIGHTNESS OR BOW OR OUT OF SQUARENESS OF SECTIONS AFTER ERECTION.	NOT MORE THAN THE ROLLING TOLERANCES AS GIVEN IN BS 5950 PART 2:2001

7.0 HOT-DIP GALVANIZING

7.1 THE SURFACE OF ALL STEEL DESCRIBED AS GALVANISED ARE TO BE THOROUGHLY AND EVENLY COATED. THE AVERAGE WEIGHT OF THE ZINC LAYER SHALL BE 610g/m^2 OF GALVANIZED SURFACE.

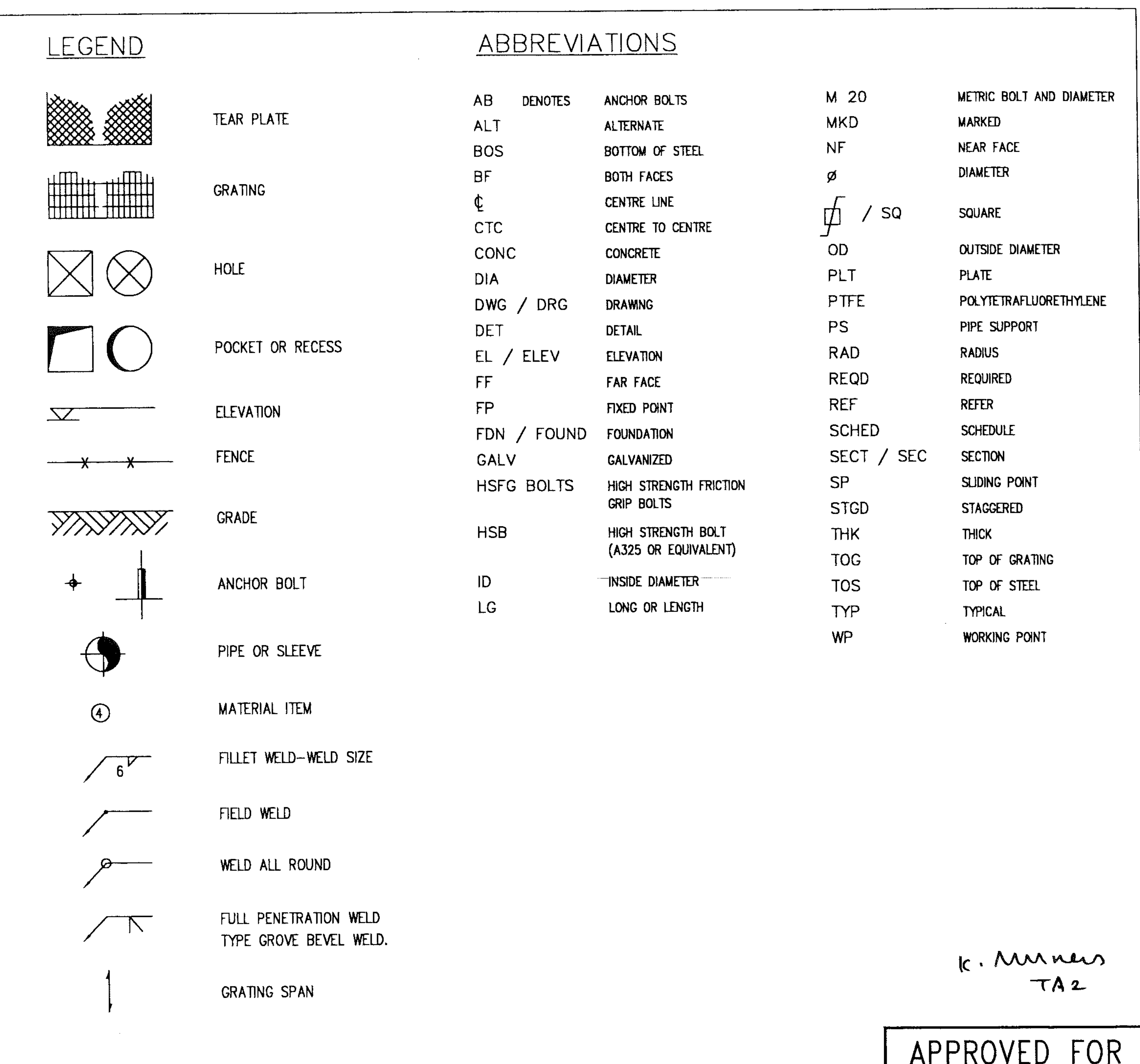
7.2 ALL DAMAGED GALVANIZED SURFACES AND ALL EDGES EXPOSED BY CUTTING AFTER GALVANIZING SHALL BE TREATED WITH TWO COATS OF ZINC PAINT SPRAYED IN ACCORDANCE WITH BS EN ISO 1461-1999.

8.0 CORROSION PROTECTION

8.1 CORROSION PROTECTION FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH CONSTRUCTION SPECIFICATION SP-1279 PART N CIVIL AND BUILDING CONSTRUCTION SPECIFICATION, PAINTING AND DECORATING. FOR ALL STEEL STRUCTURES WITHIN OIL & GAS PLANT SHALL BE AS PER SP-1246.

9.0 EARTHING CONNECTIONS

9.1 PROVIDE EARTHING BOSS FOR ALL COLUMNS AND STAIR STRINGERS RESTING ON GROUND / FOUNDATIONS. THE EARTHING BOSS DETAILS SHALL CONFIRM TO DRG No. STD-4-0305-01- -4



K. Murres
TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	TEAML.	J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB	W	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	
			CHECKED				P D O APPROVAL	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE : — 0 1 2 3 4 5 6 7

CAD DRAWING

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : STEEL STRUCTURE

DESCRIPTION : GENERAL NOTES, LEGEND AND ABBREVIATIONS

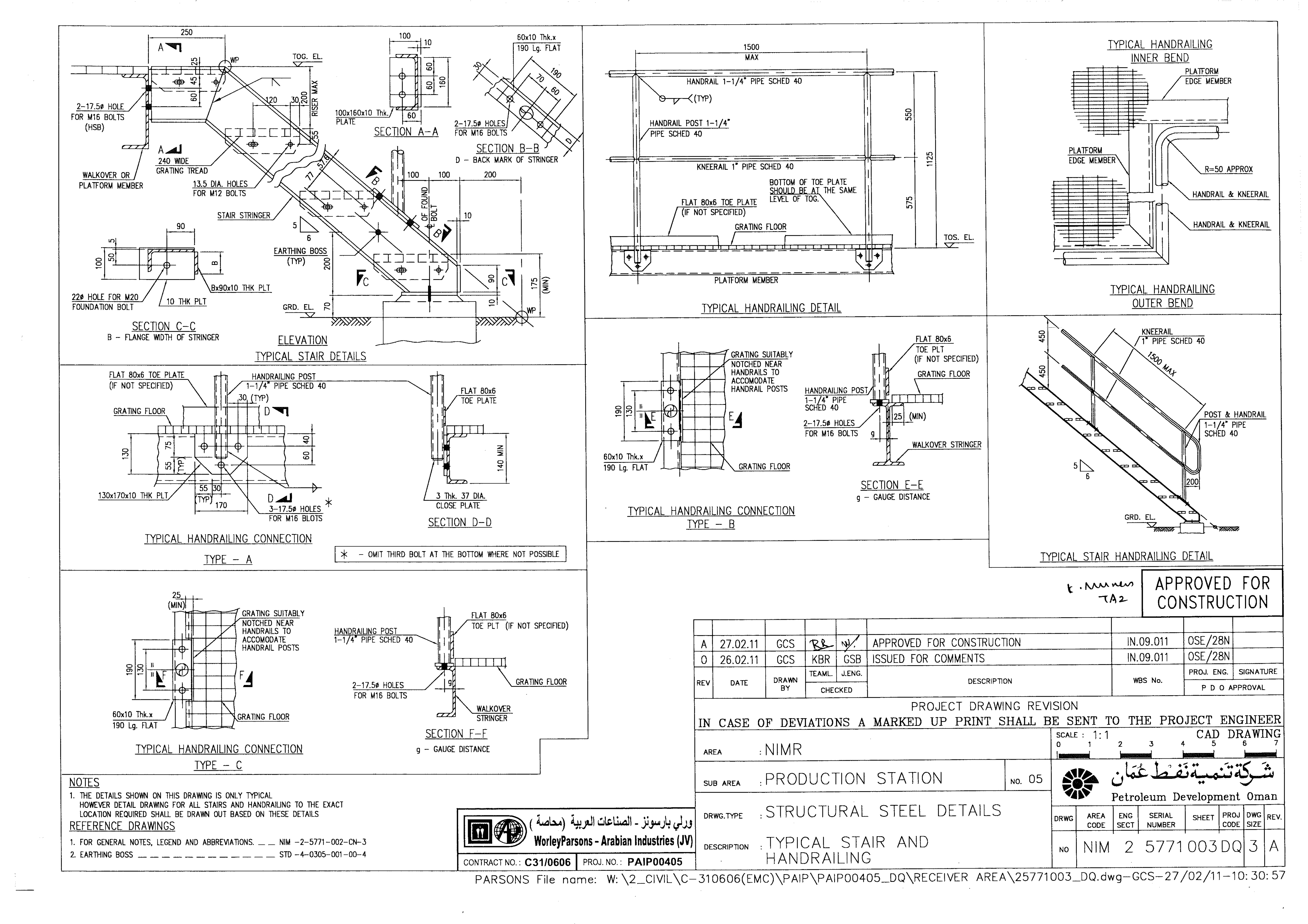
شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5771002	DQ		3	A

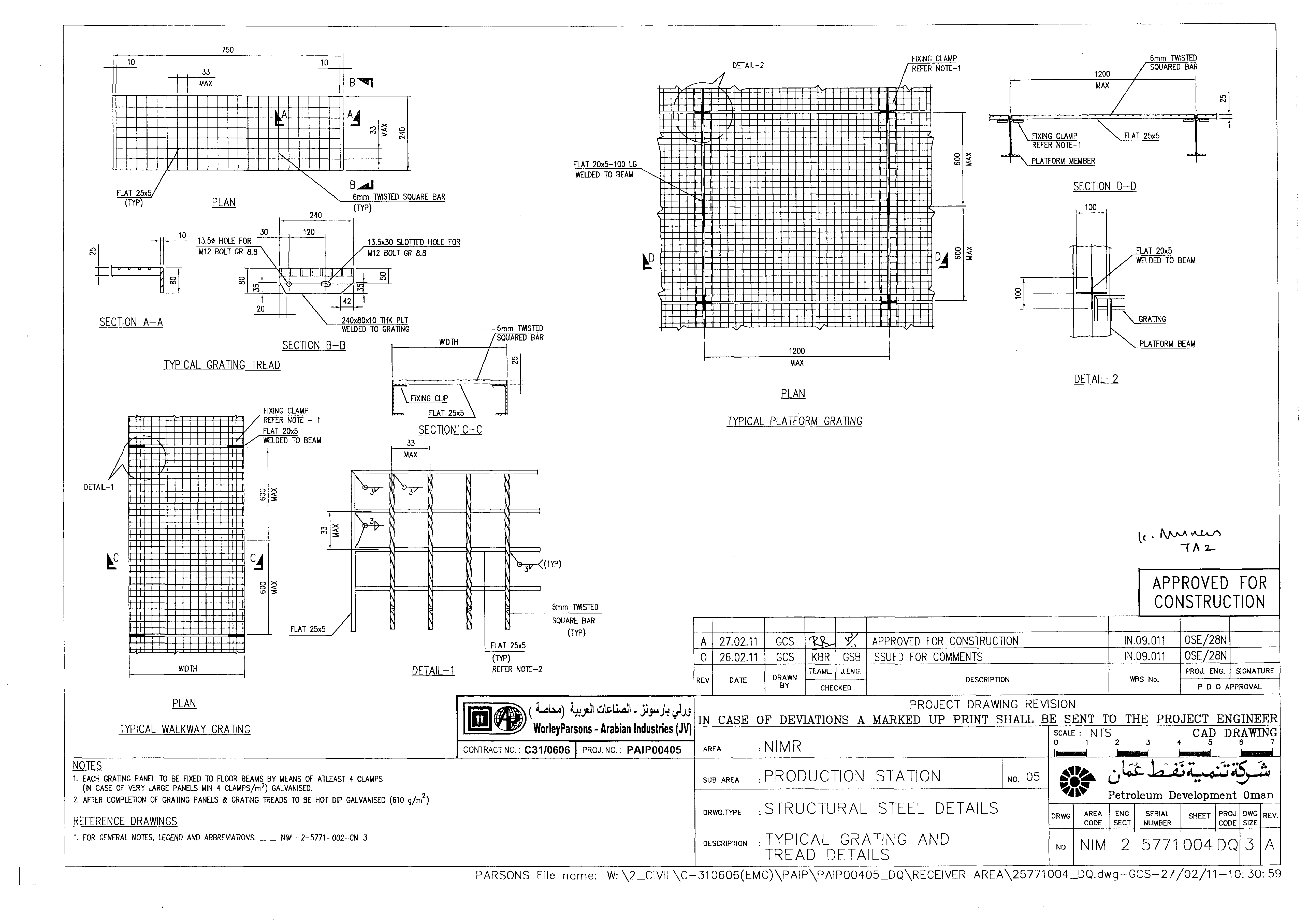
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

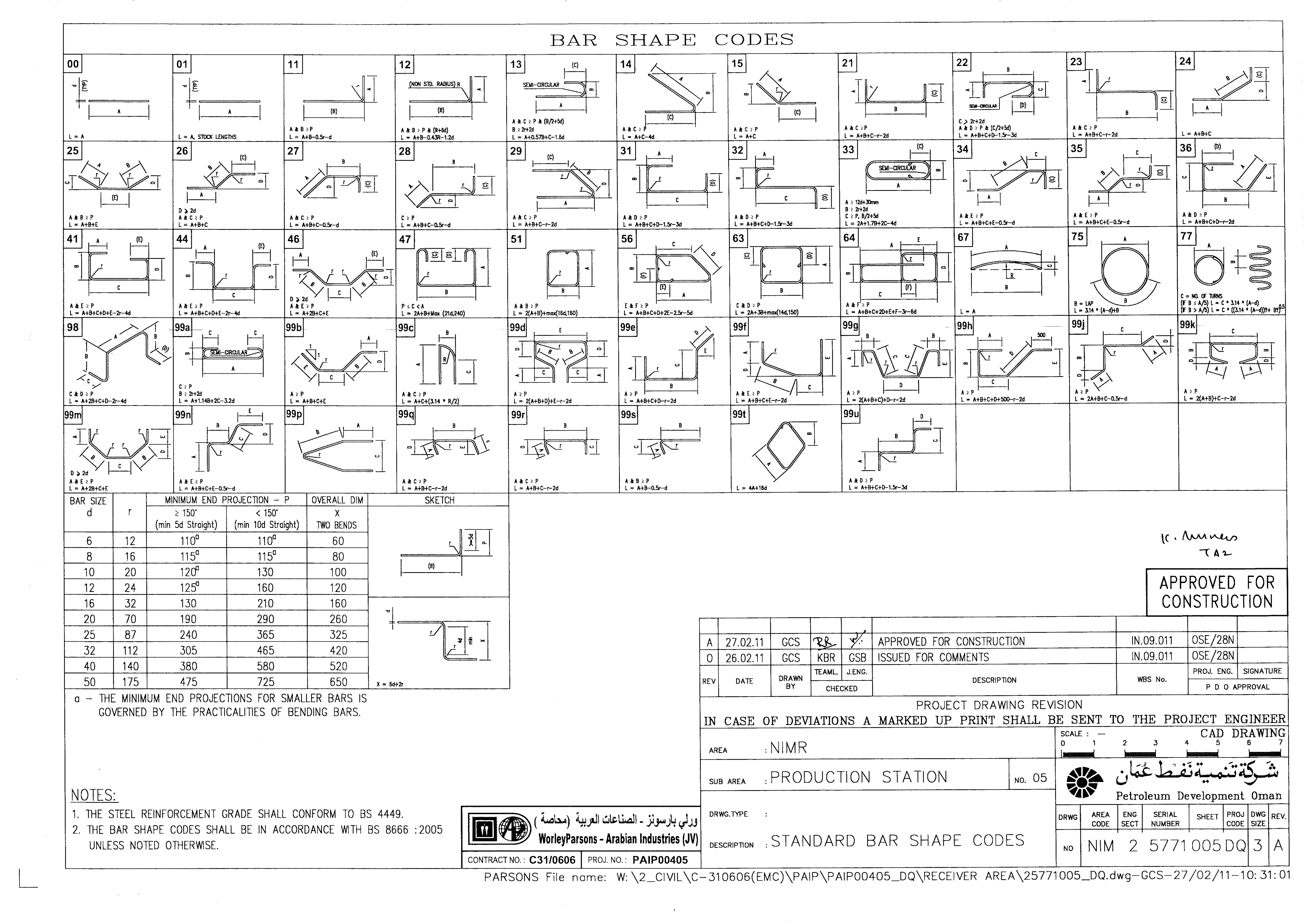
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25771002_DQ.dwg-GCS-27/02/11-10:30:55



250
A
WP
TOG. EL.
25
45
60
120
30
200
RISER MAX
55
2-17.5ø HOLE
FOR M16 BOLTS
(HSB)
A
240 WIDE
GRATING TREAD
WALKOVER OR
PLATFORM MEMBER
13.5 DIA. HOLES
FOR M12 BOLTS
STAIR STRINGER
77
578
B
5
6
EARTHING BOSS
(TYP)
200
C
GRD. EL.
70
100
100
200
OF FOUND BOLT
10
B
90
C
10
175
(MIN)
WP
ELEVATION
TYPICAL STAIR DETAILS
100
10
60
60
160
100x160x10 Thk.
PLATE
60
SECTION A–A
60x10 Thk.x
190 Lg. FLAT
30
70
190
60
2-17.5ø HOLES
FOR M16 BOLTS
D
SECTION B–B
D – BACK MARK OF STRINGER
90
5
50
100
B
22ø HOLE FOR M20
FOUNDATION BOLT
10 THK PLT
Bx90x10 THK PLT
SECTION C–C
B – FLANGE WIDTH OF STRINGER
1500
MAX
HANDRAIL 1-1/4" PIPE SCHED 40
(TYP)
HANDRAIL POST 1-1/4"
PIPE SCHED 40
550
1125
KNEERAIL 1" PIPE SCHED 40
BOTTOM OF TOE PLATE
SHOULD BE AT THE SAME
LEVEL OF TOG.
FLAT 80x6 TOE PLATE
(IF NOT SPECIFIED)
575
GRATING FLOOR
TOS. EL.
PLATFORM MEMBER
TYPICAL HANDRAILING DETAIL
TYPICAL HANDRAILING
INNER BEND
PLATFORM
EDGE MEMBER
PLATFORM
EDGE MEMBER
R=50 APPROX
HANDRAIL & KNEERAIL
HANDRAIL & KNEERAIL
TYPICAL HANDRAILING
OUTER BEND
FLAT 80x6 TOE PLATE
(IF NOT SPECIFIED)
HANDRAILING POST
1-1/4" PIPE SCHED 40
30 (TYP)
GRATING FLOOR
D
40
60
130
75
55
(TYP)
55
30
(TYP)
170
130x170x10 THK PLT
D
3-17.5ø HOLES
FOR M16 BLOTS
*
TYPICAL HANDRAILING CONNECTION
TYPE – A
FLAT 80x6
TOE PLATE
140 MIN
3 Thk. 37 DIA.
CLOSE PLATE
SECTION D–D
* – OMIT THIRD BOLT AT THE BOTTOM WHERE NOT POSSIBLE
GRATING SUITABLY
NOTCHED NEAR
HANDRAILS TO
ACCOMODATE
HANDRAIL POSTS
190
130
E
E
60x10 Thk.x
190 Lg. FLAT
GRATING FLOOR
TYPICAL HANDRAILING CONNECTION
TYPE – B
FLAT 80x6
TOE PLT
(IF NOT SPECIFIED)
GRATING FLOOR
HANDRAILING POST
1-1/4" PIPE
SCHED 40
2-17.5ø HOLES
FOR M16 BOLTS
25 (MIN)
g
WALKOVER STRINGER
SECTION E–E
g – GAUGE DISTANCE
450
450
KNEERAIL
1" PIPE SCHED 40
1500 MAX
POST & HANDRAIL
1-1/4" PIPE
SCHED 40
5
6
200
GRD. EL.
TYPICAL STAIR HANDRAILING DETAIL
25
(MIN)
GRATING SUITABLY
NOTCHED NEAR
HANDRAILS TO
ACCOMODATE
HANDRAIL POSTS
190
130
F
F
60x10 Thk.x
190 Lg. FLAT
GRATING FLOOR
TYPICAL HANDRAILING CONNECTION
TYPE – C
HANDRAILING POST
1-1/4" PIPE SCHED 40
FLAT 80x6
TOE PLT (IF NOT SPECIFIED)
2-17.5ø HOLES
FOR M16 BOLTS
g
GRATING FLOOR
WALKOVER
STRINGER
SECTION F–F
g – GAUGE DISTANCE
NOTES
1. THE DETAILS SHOWN ON THIS DRAWING IS ONLY TYPICAL
HOWEVER DETAIL DRAWING FOR ALL STAIRS AND HANDRAILING TO THE EXACT
LOCATION REQUIRED SHALL BE DRAWN OUT BASED ON THESE DETAILS
REFERENCE DRAWINGS
1. FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS. ___ NIM -2-5771-002-CN-3
2. EARTHING BOSS ______________ STD -4-0305-001-00-4
APPROVED FOR
CONSTRUCTION
TA2
A | 27.02.11 | GCS | APPROVED FOR CONSTRUCTION | IN.09.011 | OSE/28N
0 | 26.02.11 | GCS | KBR | GSB | ISSUED FOR COMMENTS | IN.09.011 | OSE/28N
REV | DATE | DRAWN BY | TEAML. | J.ENG. | CHECKED | DESCRIPTION | WBS No. | PROJ. ENG. | SIGNATURE | P D O APPROVAL
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE : 1:1
CAD DRAWING
0 1 2 3 4 5 6 7
AREA : NIMR
SUB AREA : PRODUCTION STATION
NO. 05
DRWG.TYPE : STRUCTURAL STEEL DETAILS
DESCRIPTION : TYPICAL STAIR AND HANDRAILING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG | AREA CODE | ENG SECT | SERIAL NUMBER | SHEET | PROJ CODE | DWG SIZE | REV.
NO | NIM | 2 | 5771 | 003 | DQ | 3 | A
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25771003_DQ.dwg-GCS-27/02/11-10:30:57



750
10
33
MAX
B
A
33
MAX
240
FLAT 25x5
(TYP)
PLAN
6mm TWISTED SQUARE BAR
(TYP)
240
30
120
10
25
13.5ø HOLE FOR
M12 BOLT GR 8.8
13.5x30 SLOTTED HOLE FOR
M12 BOLT GR 8.8
80
35
50
42
20
240x80x10 THK PLT
WELDED TO GRATING
SECTION A–A
SECTION B–B
TYPICAL GRATING TREAD
WIDTH
6mm TWISTED
SQUARED BAR
FIXING CLIP
FLAT 25x5
SECTION C–C
FIXING CLAMP
REFER NOTE – 1
FLAT 20x5
WELDED TO BEAM
DETAIL–1
600
MAX
C
PLAN
TYPICAL WALKWAY GRATING
3
(TYP)
6mm TWISTED
SQUARE BAR
(TYP)
FLAT 25x5
FLAT 25x5
(TYP)
REFER NOTE–2
DETAIL–1
DETAIL–2
FIXING CLAMP
REFER NOTE–1
FLAT 20x5–100 LG
WELDED TO BEAM
D
1200
MAX
PLAN
TYPICAL PLATFORM GRATING
6mm TWISTED
SQUARED BAR
FIXING CLAMP
REFER NOTE–1
FLAT 25x5
PLATFORM MEMBER
SECTION D–D
100
FLAT 20x5
WELDED TO BEAM
GRATING
PLATFORM BEAM
DETAIL–2
APPROVED FOR
CONSTRUCTION
A | 27.02.11 | GCS | | | APPROVED FOR CONSTRUCTION | IN.09.011 | OSE/28N
0 | 26.02.11 | GCS | KBR | GSB | ISSUED FOR COMMENTS | IN.09.011 | OSE/28N
REV | DATE | DRAWN BY | TEAML. | J.ENG. | CHECKED | DESCRIPTION | WBS No. | PROJ. ENG. | SIGNATURE | P D O APPROVAL
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE : NTS
CAD DRAWING
0 1 2 3 4 5 6 7
AREA : NIMR
SUB AREA : PRODUCTION STATION
NO. 05
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG.TYPE : STRUCTURAL STEEL DETAILS
DESCRIPTION : TYPICAL GRATING AND TREAD DETAILS
DRWG NO | AREA CODE | ENG SECT | SERIAL NUMBER | SHEET | PROJ CODE | DWG SIZE | REV.
NIM | 2 | 5771 | 004 | DQ | 3 | A
NOTES
1. EACH GRATING PANEL TO BE FIXED TO FLOOR BEAMS BY MEANS OF ATLEAST 4 CLAMPS (IN CASE OF VERY LARGE PANELS MIN 4 CLAMPS/m2) GALVANISED.
2. AFTER COMPLETION OF GRATING PANELS & GRATING TREADS TO BE HOT DIP GALVANISED (610 g/m2)
REFERENCE DRAWINGS
1. FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS. _ _ NIM -2-5771-002-CN-3
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25771004_DQ.dwg-GCS-27/02/11-10:30:59



BAR SIZE d	r	MINIMUM END PROJECTION – P ≥ 150° (min 5d Straight)	MINIMUM END PROJECTION – P < 150° (min 10d Straight)	OVERALL DIM X TWO BENDS
6	12	110[a]	110[a]	60
8	16	115[a]	115[a]	80
10	20	120[a]	130	100
12	24	125[a]	160	120
16	32	130	210	160
20	70	190	290	260
25	87	240	365	325
32	112	305	465	420
40	140	380	580	520
50	175	475	725	650

a – THE MINIMUM END PROJECTIONS FOR SMALLER BARS IS GOVERNED BY THE PRACTICALITIES OF BENDING BARS.

NOTES:

1. THE STEEL REINFORCEMENT GRADE SHALL CONFORM TO BS 4449.
2. THE BAR SHAPE CODES SHALL BE IN ACCORDANCE WITH BS 8666 :2005 UNLESS NOTED OTHERWISE.

K. Munes TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RR	✓	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE : — CAD DRAWING

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

شركة تنمية نفط عمان Petroleum Development Oman

DRWG.TYPE :

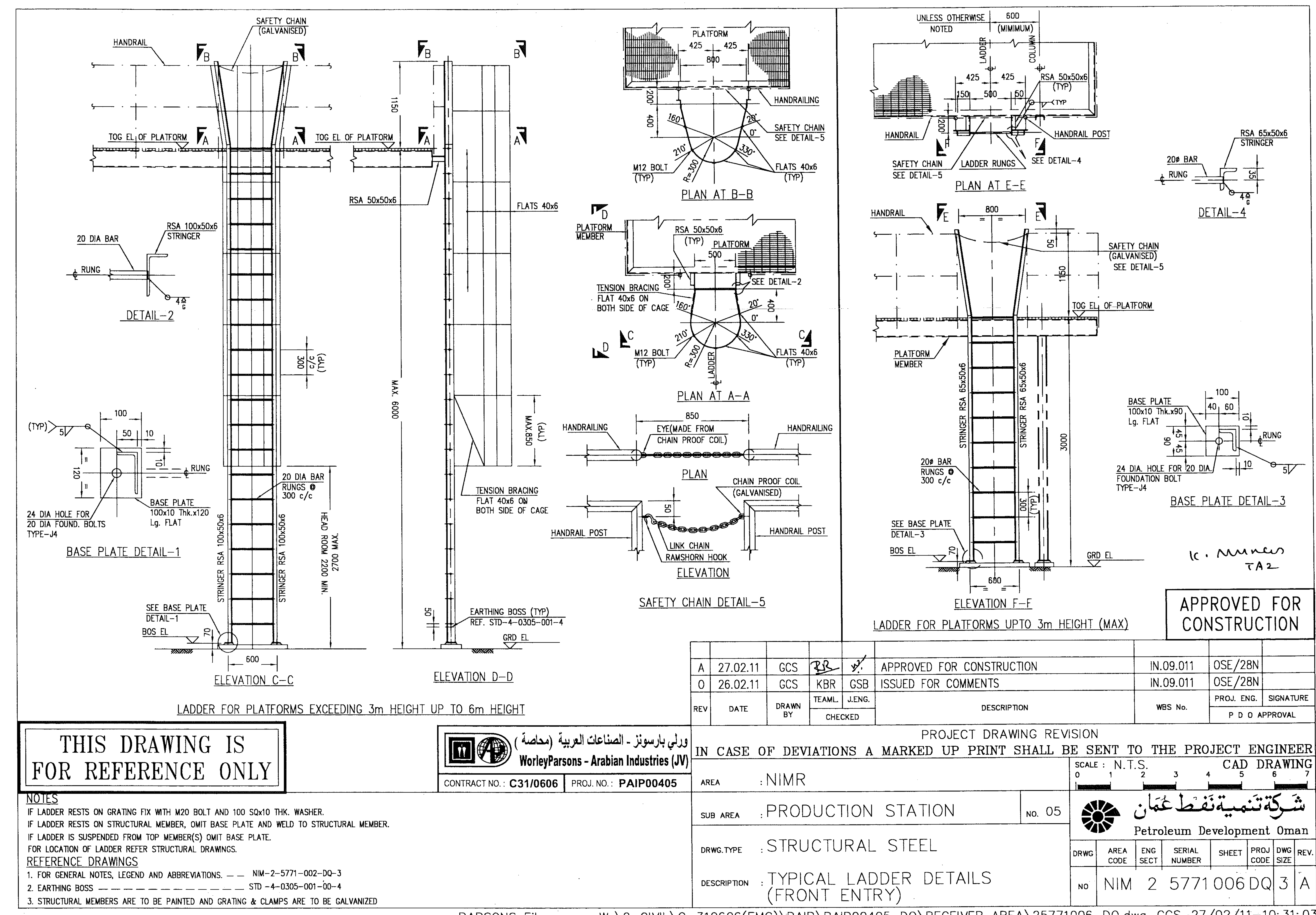
DESCRIPTION : STANDARD BAR SHAPE CODES

ورلي بارسونز - الصناعات العربية (محاصة) WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	5771	005	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25771005_DQ.dwg-GCS-27/02/11-10:31:01


SAFETY CHAIN (GALVANISED)
HANDRAIL
TOG EL OF PLATFORM
RSA 50x50x6
FLATS 40x6
RSA 100x50x6 STRINGER
20 DIA BAR
RUNG
DETAIL-2
1150
300 c/c (TYP)
MAX. 6000
MAX.850 (TYP)
100
50
10
120
(TYP)
24 DIA HOLE FOR 20 DIA FOUND. BOLTS TYPE-J4
BASE PLATE 100x10 Thk.x120 Lg. FLAT
BASE PLATE DETAIL-1
20 DIA BAR RUNGS @ 300 c/c
STRINGER RSA 100x50x6
2700 MAX. HEAD ROOM 2200 MIN.
TENSION BRACING FLAT 40x6 ON BOTH SIDE OF CAGE
SEE BASE PLATE DETAIL-1
BOS EL
70
600
EARTHING BOSS (TYP) REF. STD-4-0305-001-4
GRD EL
ELEVATION C-C
ELEVATION D-D
LADDER FOR PLATFORMS EXCEEDING 3m HEIGHT UP TO 6m HEIGHT
PLATFORM
425
800
HANDRAILING
SAFETY CHAIN SEE DETAIL-5
M12 BOLT (TYP)
R=300
FLATS 40x6 (TYP)
PLAN AT B-B
PLATFORM MEMBER
RSA 50x50x6 (TYP)
500
SEE DETAIL-2
TENSION BRACING FLAT 40x6 ON BOTH SIDE OF CAGE
LADDER
PLAN AT A-A
850
EYE(MADE FROM CHAIN PROOF COIL)
PLAN
CHAIN PROOF COIL (GALVANISED)
HANDRAIL POST
LINK CHAIN
RAMSHORN HOOK
ELEVATION
SAFETY CHAIN DETAIL-5
UNLESS OTHERWISE NOTED
600 (MIMIMUM)
COLUMN
RSA 50x50x6 (TYP)
150
LADDER RUNGS
SEE DETAIL-4
PLAN AT E-E
RSA 65x50x6 STRINGER
20ø BAR
DETAIL-4
SAFETY CHAIN (GALVANISED) SEE DETAIL-5
TOG EL OF PLATFORM
STRINGER RSA 65x50x6
20ø BAR RUNGS @ 300 c/c
3000
SEE BASE PLATE DETAIL-3
ELEVATION F-F
LADDER FOR PLATFORMS UPTO 3m HEIGHT (MAX)
BASE PLATE 100x10 Thk.x90 Lg. FLAT
24 DIA. HOLE FOR 20 DIA. FOUNDATION BOLT TYPE-J4
BASE PLATE DETAIL-3
APPROVED FOR CONSTRUCTION
A | 27.02.11 | GCS | APPROVED FOR CONSTRUCTION | IN.09.011 | OSE/28N
0 | 26.02.11 | GCS | KBR | GSB | ISSUED FOR COMMENTS | IN.09.011 | OSE/28N
REV | DATE | DRAWN BY | TEAML. | J.ENG. | CHECKED | DESCRIPTION | WBS No. | PROJ. ENG. | SIGNATURE | P D O APPROVAL
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
THIS DRAWING IS FOR REFERENCE ONLY
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
SCALE: N.T.S.
CAD DRAWING
AREA : NIMR
SUB AREA : PRODUCTION STATION
NO. 05
DRWG. TYPE : STRUCTURAL STEEL
DESCRIPTION : TYPICAL LADDER DETAILS (FRONT ENTRY)
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO | AREA CODE | ENG SECT | SERIAL NUMBER | SHEET | PROJ CODE | DWG SIZE | REV.
NIM 2 5771 006 DQ 3 A
NOTES
IF LADDER RESTS ON GRATING FIX WITH M20 BOLT AND 100 SQx10 THK. WASHER.
IF LADDER RESTS ON STRUCTURAL MEMBER, OMIT BASE PLATE AND WELD TO STRUCTURAL MEMBER.
IF LADDER IS SUSPENDED FROM TOP MEMBER(S) OMIT BASE PLATE.
FOR LOCATION OF LADDER REFER STRUCTURAL DRAWINGS.
REFERENCE DRAWINGS
1. FOR GENERAL NOTES, LEGEND AND ABBREVIATIONS. — — NIM-2-5771-002-DQ-3
2. EARTHING BOSS — — — — — STD -4-0305-001-00-4
3. STRUCTURAL MEMBERS ARE TO BE PAINTED AND GRATING & CLAMPS ARE TO BE GALVANIZED
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25771006_DQ.dwg-GCS-27/02/11-10:31:03

PIPE SUPPORT/ SLEEPER NUMBER	REFERENCE DRAWINGS			REMARKS
	STEELWORK DETAILS	SLEEPER/FOUNDATION DETAILS	LOCATION PLAN	
PS-001	NIM-2-5772-003-DQ-3	NIM-2-5772-004-DQ-3	NIM-2-5604-005-DQ-1	–
PS-002				–
PS-003				–
PS-004				–
PS-005	NIM-2-5772-006-DQ-3	–	NIM-3-2120-001-DQ-1	–
PS-006	NIM-2-5772-007-DQ-3	–	NIM-2-5604-005-DQ-1	–
PS-007	NIM-2-5772-008-DQ-3	–		–
PS-008	NIM-2-5772-009-DQ-3	NIM-2-5772-010-DQ-3		–
PS-009	NIM-2-5772-008-DQ-3	–		–
PS-010	NIM-2-5772-012-DQ-3	NIM-2-5772-010-DQ-3		–
PS-011	NIM-2-5772-013-DQ-3	NIM-2-5772-010-DQ-3		–
PS-012	NIM-2-5772-014-DQ-3	–		–
PS-013	NIM-2-5772-015-DQ-3	NIM-2-5772-010-DQ-3		–
PS-014	NIM-2-5772-013-DQ-3	NIM-2-5772-010-DQ-3		–
PS-015	NIM-2-5772-013-DQ-3	NIM-2-5772-010-DQ-3		–
PS-016	NIM-2-5772-013-DQ-3	NIM-2-5772-010-DQ-3		–
PS-017	NIM-2-5772-013-DQ-3	NIM-2-5772-010-DQ-3		–
PS-018	NIM-2-5772-013-DQ-3	NIM-2-5772-010-DQ-3		–
PS-019	–	–	–	SPARE
PS-020	–	–	–	SPARE
PS-021	NIM-2-5772-013-DQ-3	NIM-2-5772-010-DQ-3	NIM-2-5604-005-DQ-1	–
PS-022	NIM-2-5772-013-DQ-3	NIM-2-5772-010-DQ-3		–
PS-023	NIM-2-5772-013-DQ-3	NIM-2-5772-010-DQ-3		–
PS-024	NIM-2-5772-013-DQ-3	NIM-2-5772-010-DQ-3		–
PS-025	NIM-2-5772-013-DQ-3	NIM-2-5772-010-DQ-3		–
PS-026	NIM-2-5772-013-DQ-3	NIM-2-5772-010-DQ-3		–
PS-027	NIM-2-5772-016-DQ-3	NIM-2-5772-017-DQ-3		–
PS-028	NIM-2-5772-016-DQ-3	NIM-2-5772-017-DQ-3		–
PS-029	NIM-2-5772-019-DQ-3	–		–
PS-030	NIM-2-5772-019-DQ-3	–		–
PS-031	–	–	–	SPARE

PIPE SUPPORT/ SLEEPER NUMBER	REFERENCE DRAWINGS			REMARKS
	STEELWORK DETAILS	SLEEPER/FOUNDATION DETAILS	LOCATION PLAN	
PS-032	–	–	–	SPARE
PS-033	NIM-2-5772-020-DQ-3	NIM-2-5772-010-DQ-3	NIM-2-5604-005-DQ-1	–
PS-034	NIM-2-5772-020-DQ-3	NIM-2-5772-010-DQ-3	NIM-2-5604-005-DQ-1	–
PS-035 TO 050	–	–	–	SPARE
PS-051 TO 066	–	–	–	LAUNCHER AREA
U BOLT DET.	NIM-2-5772-021-DQ-3	–	–	
U BOLT GRIPPED	NIM-2-5772-022-DQ-3	–	–	
PIPE GUIDE DET.	NIM-2-5772-023-DQ-3	–	–	

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	27.02.11	GCS	RR	Y	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)

WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

NOTES

1. CONTRACTOR SHALL REFER PIPING PLAN ,PRIOR TO FABRICATION, INSTALLATION OF PIPE SUPPORTS

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S

DRAWING NUMBER

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : PIPE SUPPORTS (RECEIVER)

DESCRIPTION : INDEX SHEETS

SCALE : NTS CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	001	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772001_DQ.dwg-GCS-27/02/11-10:31:04

PIPE SUPPORT/ SLEEPER NUMBER	REFERENCE DRAWINGS			REMARKS
	STEELWORK DETAILS	SLEEPER/FOUNDATION DETAILS	LOCATION PLAN	
SL-001	-	NIM-2-5772-024-DQ-3	NIM-2-5604-005-DQ-1	-
SL-002	-	NIM-2-5772-024-DQ-3		-
SL-003	-	NIM-2-5772-026-DQ-3		-
SL-004	-	NIM-2-5772-028-DQ-3		-
SL-005	-	NIM-2-5772-026-DQ-3		-
SL-006	-	NIM-2-5772-028-DQ-3		-
SL-007	-	-	-	SPARE
SL-008	-	-	-	SPARE
SL-009	-	-	-	SPARE
SL-010	-	NIM-2-5772-030-DQ-3	NIM-2-5604-005-DQ-1	-
SL-011	-	NIM-2-5772-030-DQ-3	NIM-2-5210-001-DQ-1	-
SL-012	-	-	-	SPARE
SL-013	-	-	-	SPARE
SL-014	-	NIM-2-5772-030-DQ-3	NIM-2-5210-001-DQ-1	-
SL-015	-	NIM-2-5772-030-DQ-3	NIM-2-5210-001-DQ-1	-
SL-016	-	NIM-2-5772-030-DQ-3	NIM-2-5210-001-DQ-1	-
SL-017	-	-	-	SPARE
SL-018	-	-	-	SPARE
SL-019	-	NIM-2-5772-030-DQ-3	NIM-2-5210-001-DQ-1	-
SL-020	-	-	-	SPARE
SL-021	-	-	-	SPARE
SL-022	-	-	-	SPARE
SL-023	-	NIM-2-5774-003-DQ-3	NIM-2-5604-005-DQ-1	-
SL-024	-	-	-	-
SL-025	-	-	-	-
SL-026	-	-	-	-
SL-027	-	-	-	-
SL-028	-	-	-	-
SL-029	-	-	-	-
SL-030	-	-	-	-
SL-031	-	-	-	-

PIPE SUPPORT/ SLEEPER NUMBER	REFERENCE DRAWINGS			REMARKS
	STEELWORK DETAILS	SLEEPER/FOUNDATION DETAILS	LOCATION PLAN	
SL-032	-	-	-	-
SL-033	-	-	-	-
SL-034	-	-	-	-
SL-035	-	-	-	-
SL-036	-	-	-	-
SL-037	-	-	-	-
SL-038	-	-	-	-
SL-039	-	-	-	-
SL-040	-	-	-	-
SL-041	-	-	-	-
SL-042	-	-	-	-
SL-043	-	-	-	-
SL-044	-	-	-	-
SL-045	-	-	-	-
SL-046	-	-	-	-
SL-047	-	-	-	-
SL-048	-	-	-	-
SL-049	-	-	-	-
SL-050	-	-	-	-
SL-051	-	-	-	-
SL-052	-	-	-	-
SL-053	-	-	-	-
SL-054	-	-	-	-
SL-055	-	-	-	-
SL-056	-	-	-	-

K. Muners
TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	P D O APPROVAL PROJ. ENG.	P D O APPROVAL SIGNATURE
A	27.02.11	GCS	RR	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

NOTES

1. CONTRACTOR SHALL REFER PIPING PLAN ,PRIOR TO FABRICATION, INSTALLATION OF PIPE SUPPORTS

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S

DRAWING NUMBER

SCALE : NTS — CAD DRAWING

0 1 2 3 4 5 6 7

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

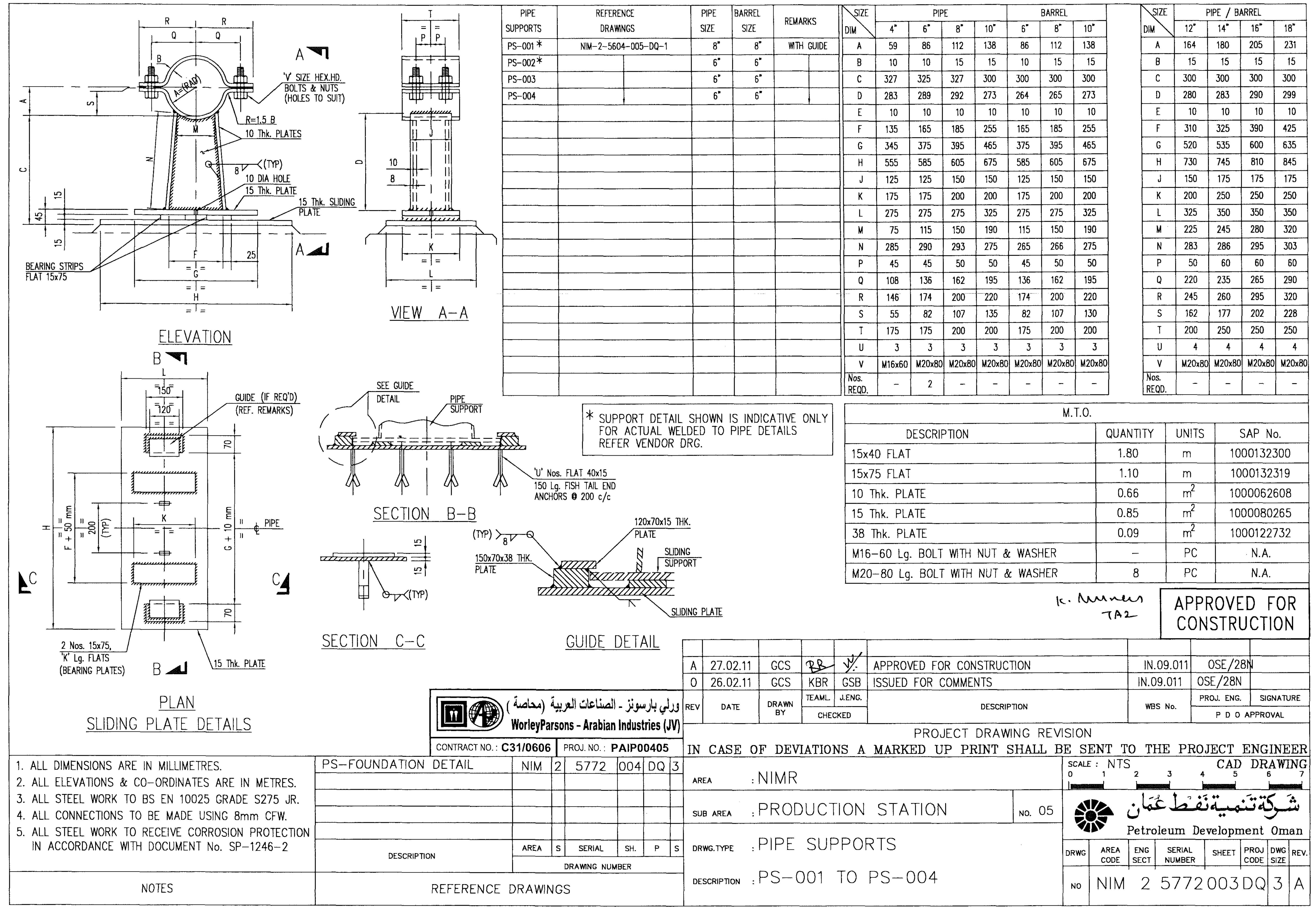
DRWG.TYPE : PIPE SUPPORTS

DESCRIPTION : INDEX SHEETS

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	002	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772002_DQ.dwg-GCS-27/02/11-10:31:04



PIPE SUPPORTS	REFERENCE DRAWINGS	PIPE SIZE	BARREL SIZE	REMARKS
PS-001 *	NIM-2-5604-005-DQ-1	8"	8"	WITH GUIDE
PS-002 *		6"	6"	
PS-003		6"	6"	
PS-004		6"	6"	

SIZE / DIM	PIPE 4"	PIPE 6"	PIPE 8"	PIPE 10"	BARREL 6"	BARREL 8"	BARREL 10"
A	59	86	112	138	86	112	138
B	10	10	15	15	10	15	15
C	327	325	327	300	300	300	300
D	283	289	292	273	264	265	273
E	10	10	10	10	10	10	10
F	135	165	185	255	165	185	255
G	345	375	395	465	375	395	465
H	555	585	605	675	585	605	675
J	125	125	150	150	125	150	150
K	175	175	200	200	175	200	200
L	275	275	275	325	275	275	325
M	75	115	150	190	115	150	190
N	285	290	293	275	265	266	275
P	45	45	50	50	45	50	50
Q	108	136	162	195	136	162	195
R	146	174	200	220	174	200	220
S	55	82	107	135	82	107	130
T	175	175	200	200	175	200	200
U	3	3	3	3	3	3	3
V	M16x60	M20x80	M20x80	M20x80	M20x80	M20x80	M20x80
Nos. REQD.	–	2	–	–	–	–	–

SIZE / DIM	PIPE / BARREL 12"	14"	16"	18"
A	164	180	205	231
B	15	15	15	15
C	300	300	300	300
D	280	283	290	299
E	10	10	10	10
F	310	325	390	425
G	520	535	600	635
H	730	745	810	845
J	150	175	175	175
K	200	250	250	250
L	325	350	350	350
M	225	245	280	320
N	283	286	295	303
P	50	60	60	60
Q	220	235	265	290
R	245	260	295	320
S	162	177	202	228
T	200	250	250	250
U	4	4	4	4
V	M20x80	M20x80	M20x80	M20x80
Nos. REQD.	–	–	–	–

M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
15x40 FLAT	1.80	m	1000132300
15x75 FLAT	1.10	m	1000132319
10 Thk. PLATE	0.66	m^2	1000062608
15 Thk. PLATE	0.85	m^2	1000080265
38 Thk. PLATE	0.09	m^2	1000122732
M16-60 Lg. BOLT WITH NUT & WASHER	–	PC	N.A.
M20-80 Lg. BOLT WITH NUT & WASHER	8	PC	N.A.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG. (P D O APPROVAL)	SIGNATURE
A	27.02.11	GCS	RB	(signature)	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR.
4. ALL CONNECTIONS TO BE MADE USING 8mm CFW.
5. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PS-FOUNDATION DETAIL	NIM	2	5772	004	DQ	3

AREA : NIMR

SUB AREA : PRODUCTION STATION — NO. 05

DRWG.TYPE : PIPE SUPPORTS

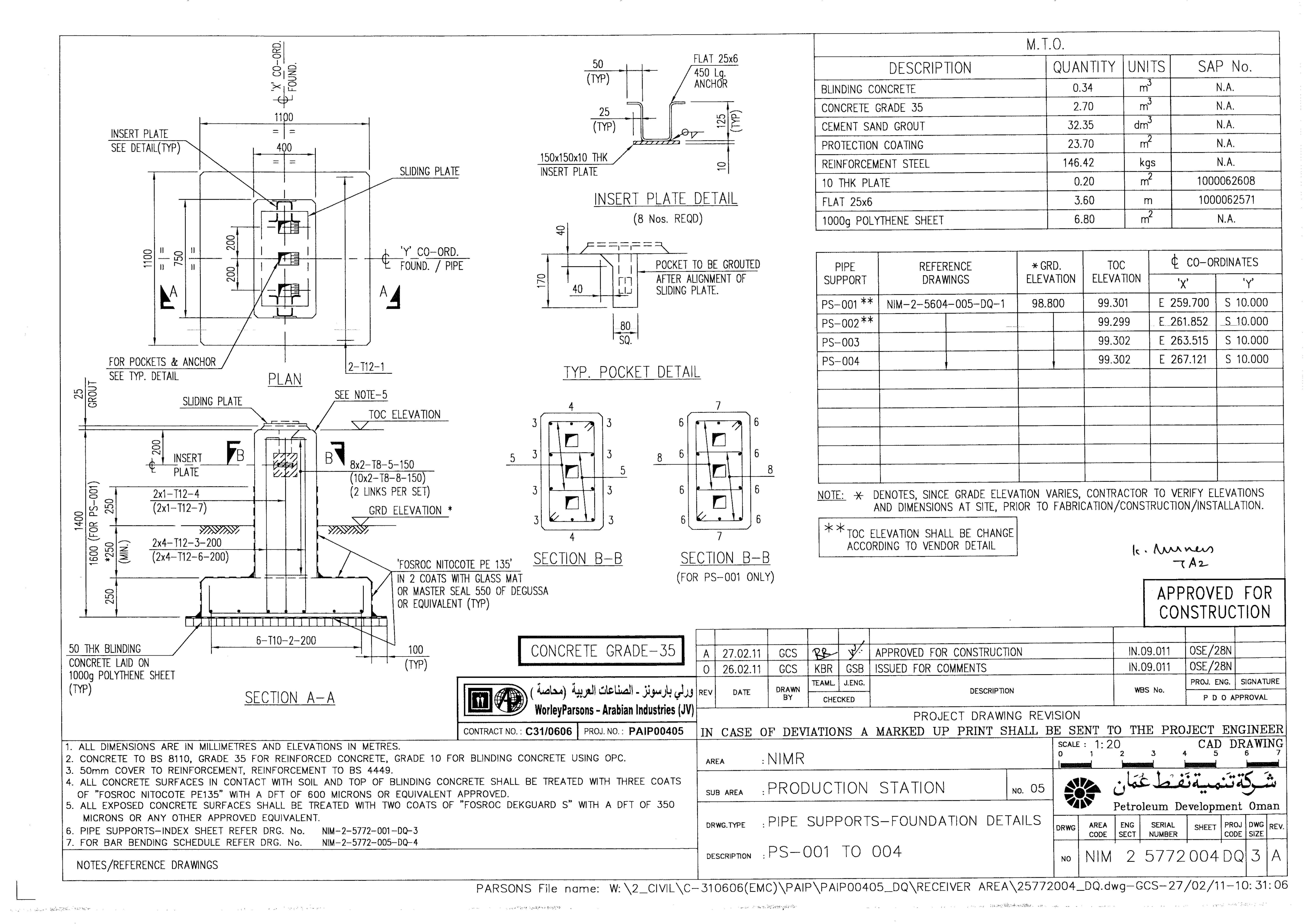
DESCRIPTION : PS-001 TO PS-004

SCALE : NTS — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	003	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772003_DQ.dwg-GCS-27/02/11-10:31:06



M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	0.34	m^3	N.A.
CONCRETE GRADE 35	2.70	m^3	N.A.
CEMENT SAND GROUT	32.35	dm^3	N.A.
PROTECTION COATING	23.70	m^2	N.A.
REINFORCEMENT STEEL	146.42	kgs	N.A.
10 THK PLATE	0.20	m^2	1000062608
FLAT 25x6	3.60	m	1000062571
1000g POLYTHENE SHEET	6.80	m^2	N.A.

PIPE SUPPORT	REFERENCE DRAWINGS	*GRD. ELEVATION	TOC ELEVATION	℄ CO-ORDINATES 'X'	'Y'
PS-001 **	NIM-2-5604-005-DQ-1	98.800	99.301	E 259.700	S 10.000
PS-002 **			99.299	E 261.852	S 10.000
PS-003			99.302	E 263.515	S 10.000
PS-004			99.302	E 267.121	S 10.000

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

** TOC ELEVATION SHALL BE CHANGE ACCORDING TO VENDOR DETAIL

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE: 1:20 CAD DRAWING

AREA: NIMR

SUB AREA: PRODUCTION STATION NO. 05

DRWG.TYPE: PIPE SUPPORTS-FOUNDATION DETAILS

DESCRIPTION: PS-001 TO 004

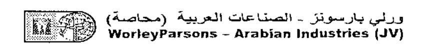
شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	004	DQ	3	A

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. ALL CONCRETE SURFACES IN CONTACT WITH SOIL AND TOP OF BLINDING CONCRETE SHALL BE TREATED WITH THREE COATS OF "FOSROC NITOCOTE PE135" WITH A DFT OF 600 MICRONS OR EQUIVALENT APPROVED.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. PIPE SUPPORTS-INDEX SHEET REFER DRG. No. NIM-2-5772-001-DQ-3
7. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-5772-005-DQ-4

NOTES/REFERENCE DRAWINGS

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772004_DQ.dwg-GCS-27/02/11-10:31:06



BAR BENDING SCHEDULE

JOB NO.:	**PAIP00238**	**Document No.:**	NIM-2-5772-005-DQ-4
PART ID.:	**PRODUCTION STATION PS-001 TO 004**	**Revision No.:**	A
		Prepared by:	GCS
		Checked by:	PNG
REF. DWG NO.:	**NIM-2-5772-004-DQ-3**	Date:	27.02.11

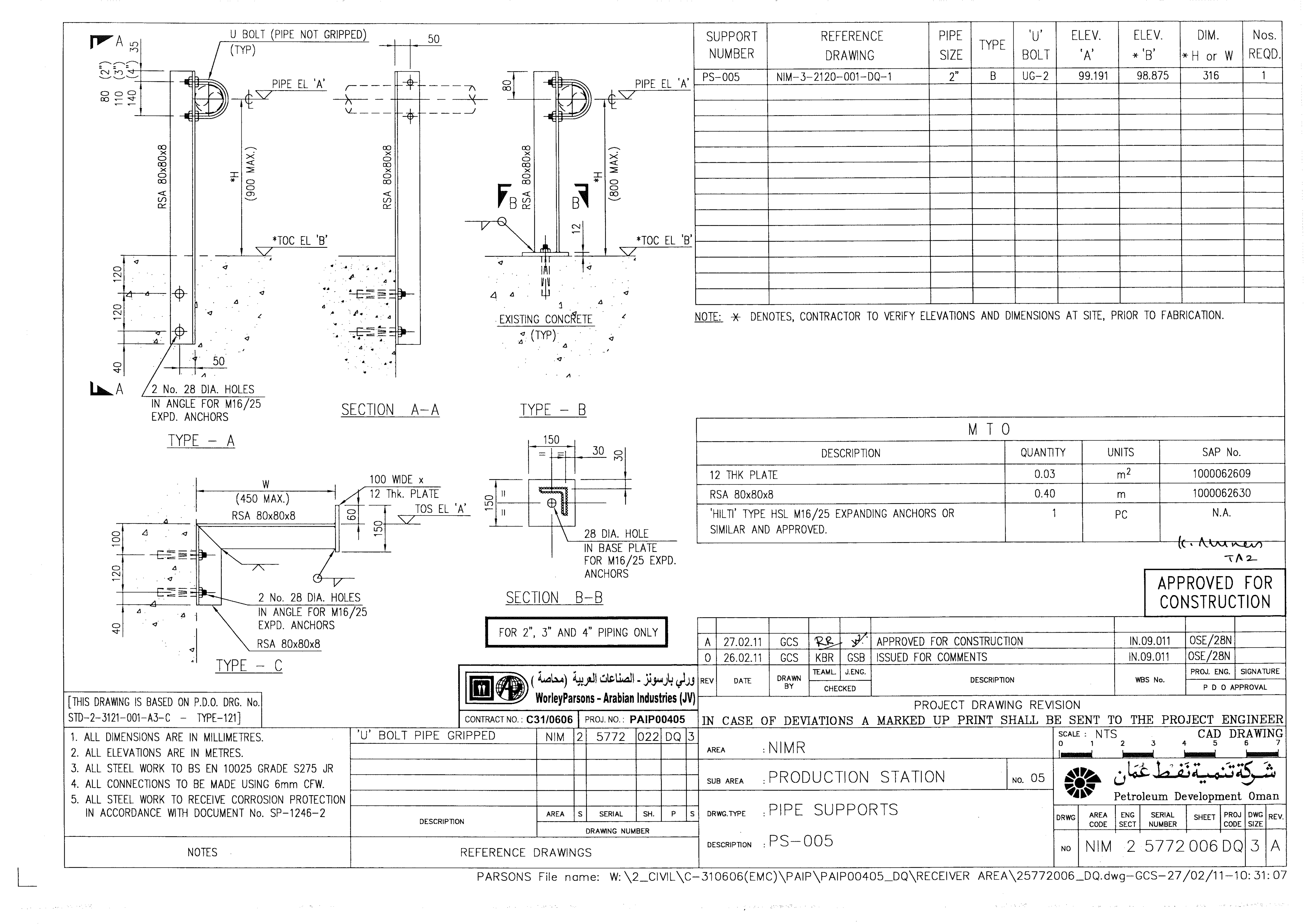
Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		113.90	30.60	92.00				
Weight (Kgs)		45.56	18.98	81.88				

Total Weight (Kgs) 146.420

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PS-001 TO 004	1	T12	4	2	8	1275	21	150	1000	150		
	2	T10	4	6	24	1275	21	150	1000	150		
	3	T12	3	8	24	2100	31	100	1300	650	100	
	4	T12	3	2	6	1575	11	300	1290			
	5	T8	3	16	48	1675	51	450	300			
	6	T12	1	8	8	2300	31	100	1500	650	100	
	7	T12	1	2	2	1775	11	300	1490			
	8	T8	1	20	20	1675	51	450	300			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



SUPPORT NUMBER	REFERENCE DRAWING	PIPE SIZE	TYPE	'U' BOLT	ELEV. 'A'	ELEV. *'B'	DIM. *H or W	Nos. REQD.
PS-005	NIM-3-2120-001-DQ-1	2"	B	UG-2	99.191	98.875	316	1

NOTE: * DENOTES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
12 THK PLATE	0.03	m^2	1000062609
RSA 80x80x8	0.40	m	1000062630
'HILTI' TYPE HSL M16/25 EXPANDING ANCHORS OR SIMILAR AND APPROVED.	1	PC	N.A.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RR		APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3121-001-A3-C – TYPE-121]

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. ALL CONNECTIONS TO BE MADE USING 6mm CFW.
5. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
'U' BOLT PIPE GRIPPED	NIM	2	5772	022	DQ	3

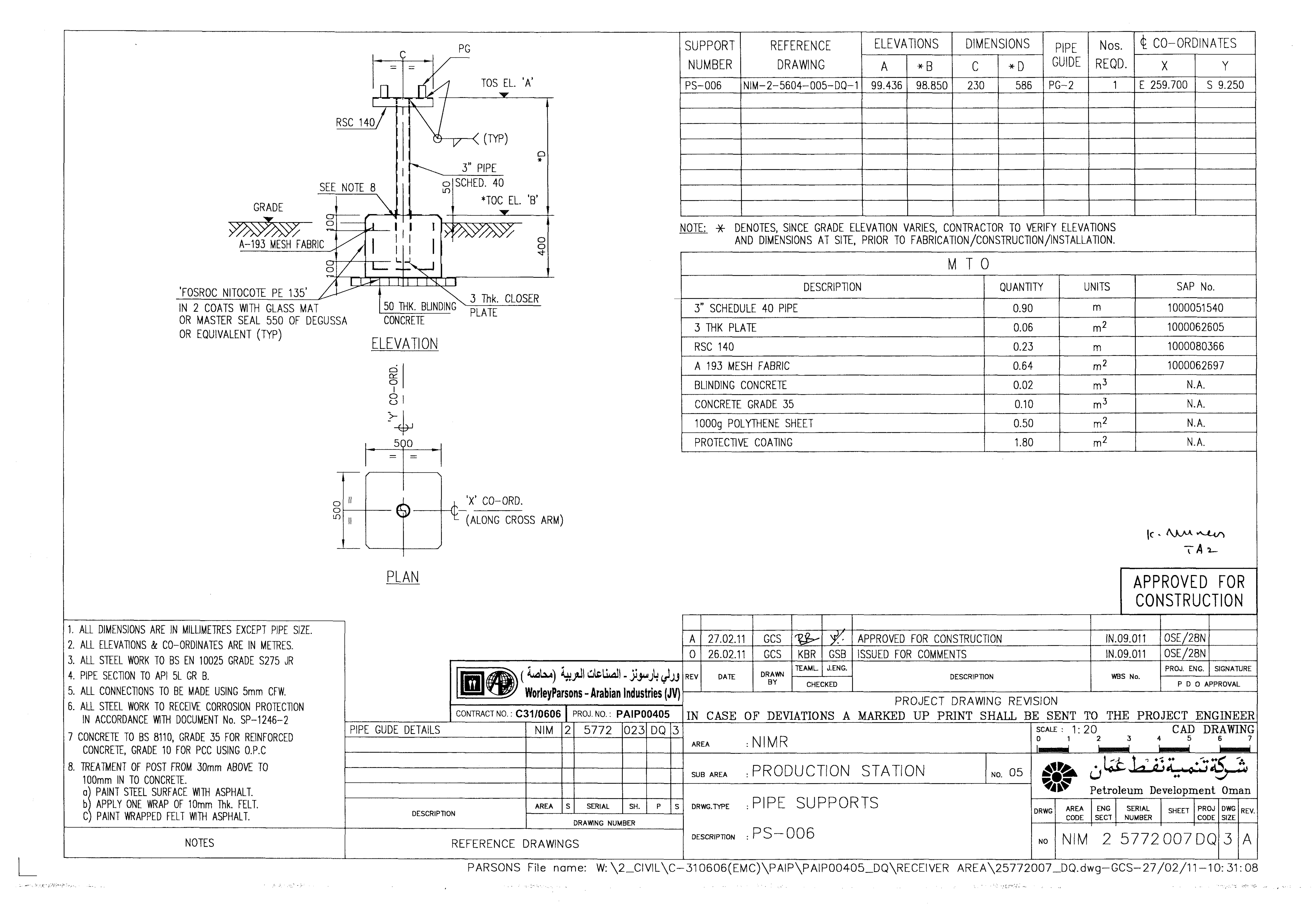
AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS–005

SCALE : NTS CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	5772	006	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772006_DQ.dwg-GCS-27/02/11-10:31:07



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS		DIMENSIONS		PIPE GUIDE	Nos. REQD.	℄ CO-ORDINATES	
		A	*B	C	*D			X	Y
PS-006	NIM-2-5604-005-DQ-1	99.436	98.850	230	586	PG-2	1	E 259.700	S 9.250

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	0.90	m	1000051540
3 THK PLATE	0.06	m^2	1000062605
RSC 140	0.23	m	1000080366
A 193 MESH FABRIC	0.64	m^2	1000062697
BLINDING CONCRETE	0.02	m^3	N.A.
CONCRETE GRADE 35	0.10	m^3	N.A.
1000g POLYTHENE SHEET	0.50	m^2	N.A.
PROTECTIVE COATING	1.80	m^2	N.A.

K. Mumen
TA2

APPROVED FOR CONSTRUCTION

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT PIPE SIZE.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2
7. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR PCC USING O.P.C
8. TREATMENT OF POST FROM 30mm ABOVE TO 100mm IN TO CONCRETE.
   a) PAINT STEEL SURFACE WITH ASPHALT.
   b) APPLY ONE WRAP OF 10mm Thk. FELT.
   c) PAINT WRAPPED FELT WITH ASPHALT.

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPE GUDE DETAILS	NIM	2	5772	023	DQ	3

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	27.02.11	GCS	RB	YJ	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

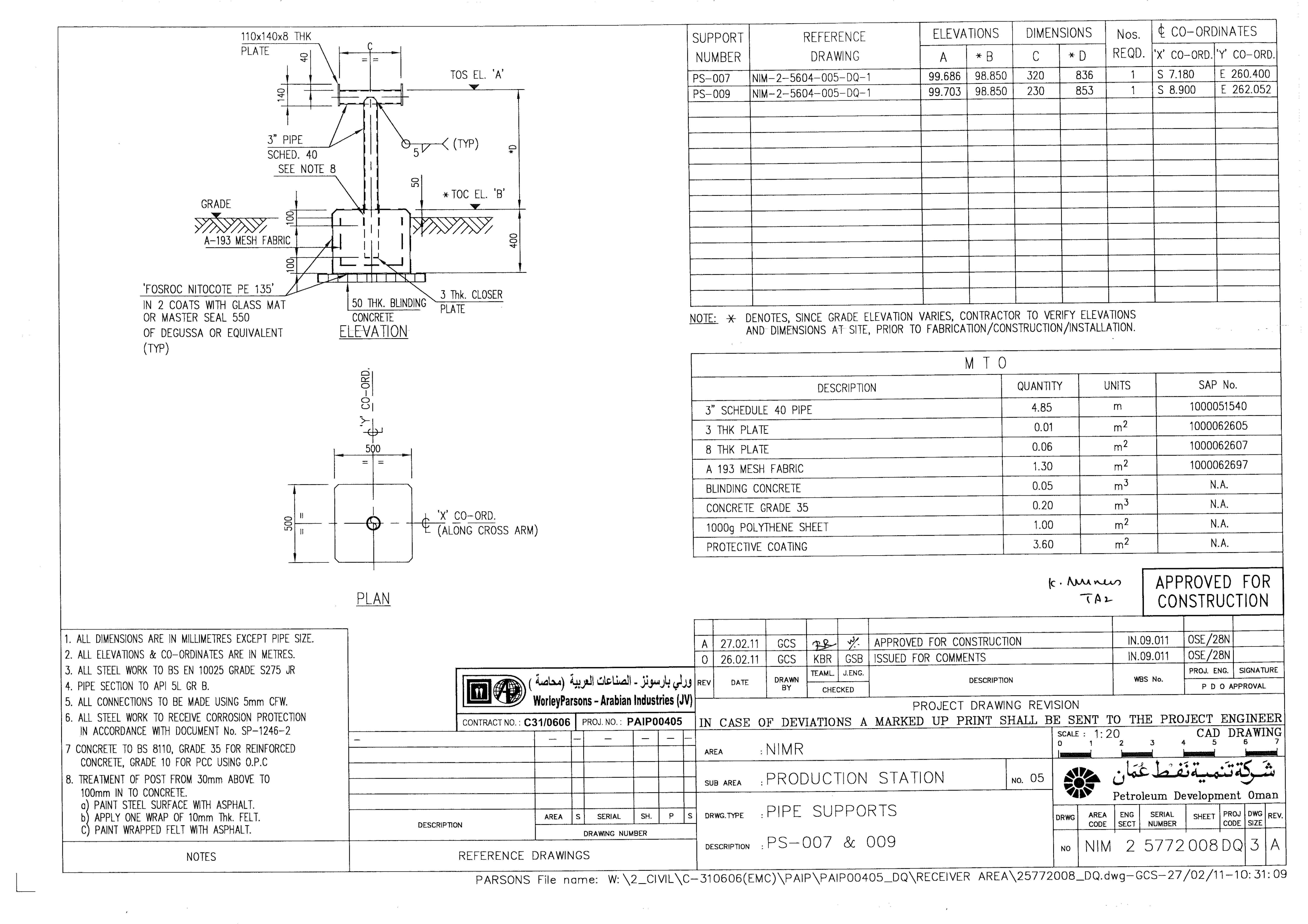
AREA: NIMR
SUB AREA: PRODUCTION STATION — NO. 05
DRWG.TYPE: PIPE SUPPORTS
DESCRIPTION: PS-006

SCALE: 1:20 — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	007	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772007_DQ.dwg-GCS-27/02/11-10:31:08



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS * B	DIMENSIONS C	DIMENSIONS * D	Nos. REQD.	℄ CO-ORDINATES 'X' CO-ORD.	℄ CO-ORDINATES 'Y' CO-ORD.
PS-007	NIM-2-5604-005-DQ-1	99.686	98.850	320	836	1	S 7.180	E 260.400
PS-009	NIM-2-5604-005-DQ-1	99.703	98.850	230	853	1	S 8.900	E 262.052

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	4.85	m	1000051540
3 THK PLATE	0.01	m^2	1000062605
8 THK PLATE	0.06	m^2	1000062607
A 193 MESH FABRIC	1.30	m^2	1000062697
BLINDING CONCRETE	0.05	m^3	N.A.
CONCRETE GRADE 35	0.20	m^3	N.A.
1000g POLYTHENE SHEET	1.00	m^2	N.A.
PROTECTIVE COATING	3.60	m^2	N.A.

K. Mumes TA2

APPROVED FOR CONSTRUCTION

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT PIPE SIZE.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2
7 CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR PCC USING O.P.C
8. TREATMENT OF POST FROM 30mm ABOVE TO 100mm IN TO CONCRETE.
   a) PAINT STEEL SURFACE WITH ASPHALT.
   b) APPLY ONE WRAP OF 10mm Thk. FELT.
   c) PAINT WRAPPED FELT WITH ASPHALT.

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
-	-	-	-	-	-	-

DRAWING NUMBER

REFERENCE DRAWINGS

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

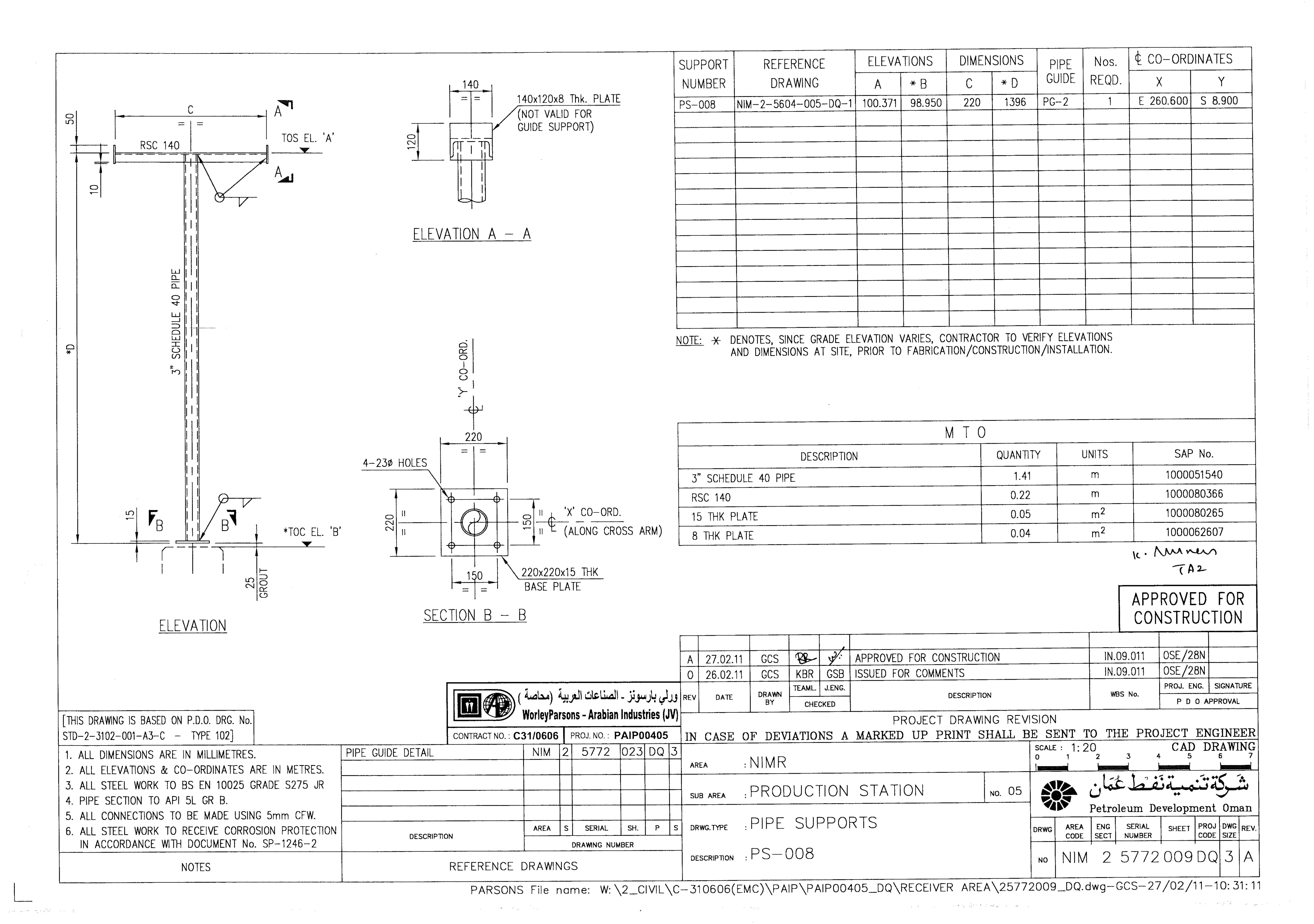
SCALE : 1:20 — CAD DRAWING

AREA : NIMR
SUB AREA : PRODUCTION STATION — NO. 05
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS-007 & 009

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	008	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772008_DQ.dwg-GCS-27/02/11-10:31:09



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS * B	DIMENSIONS C	DIMENSIONS * D	PIPE GUIDE	Nos. REQD.	℄ CO-ORDINATES X	℄ CO-ORDINATES Y
PS-008	NIM-2-5604-005-DQ-1	100.371	98.950	220	1396	PG-2	1	E 260.600	S 8.900

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	1.41	m	1000051540
RSC 140	0.22	m	1000080366
15 THK PLATE	0.05	m^2	1000080265
8 THK PLATE	0.04	m^2	1000062607

K. Ameen
TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	TEAML.	J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

CHECKED — P D O APPROVAL

PROJECT DRAWING REVISION

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3102-001-A3-C – TYPE 102]

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPE GUIDE DETAIL	NIM	2	5772	023	DQ	3

DRAWING NUMBER

AREA : NIMR

SUB AREA : PRODUCTION STATION — NO. 05

DRWG.TYPE : PIPE SUPPORTS

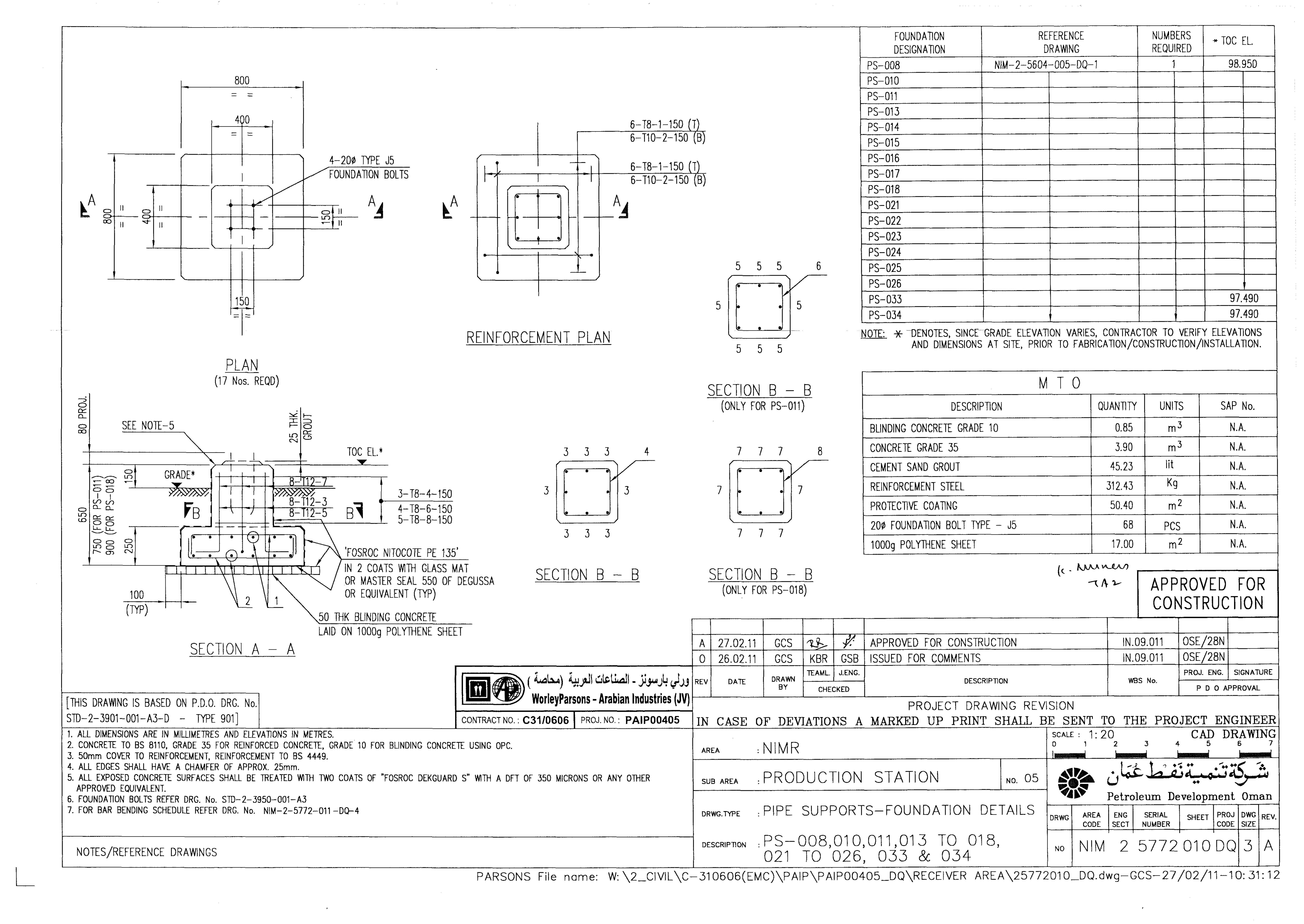
DESCRIPTION : PS–008

SCALE : 1:20 — CAD DRAWING

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	009	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772009_DQ.dwg-GCS-27/02/11-10:31:11

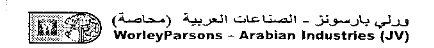


FOUNDATION DESIGNATION	REFERENCE DRAWING	NUMBERS REQUIRED	* TOC EL.
PS-008	NIM-2-5604-005-DQ-1	1	98.950
PS-010			
PS-011			
PS-013			
PS-014			
PS-015			
PS-016			
PS-017			
PS-018			
PS-021			
PS-022			
PS-023			
PS-024			
PS-025			
PS-026			
PS-033			97.490
PS-034			97.490

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE GRADE 10	0.85	m^3	N.A.
CONCRETE GRADE 35	3.90	m^3	N.A.
CEMENT SAND GROUT	45.23	lit	N.A.
REINFORCEMENT STEEL	312.43	Kg	N.A.
PROTECTIVE COATING	50.40	m^2	N.A.
20ø FOUNDATION BOLT TYPE - J5	68	PCS	N.A.
1000g POLYTHENE SHEET	17.00	m^2	N.A.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	



BAR BENDING SCHEDULE

JOB NO.: PAIP00238
PART ID.: PRODUCTION STATION

REF. DWG NO.: NIM-2-5772-010-DQ-3

Document No.: NIM-2-5772-011-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG RR
Date: 27.02.11

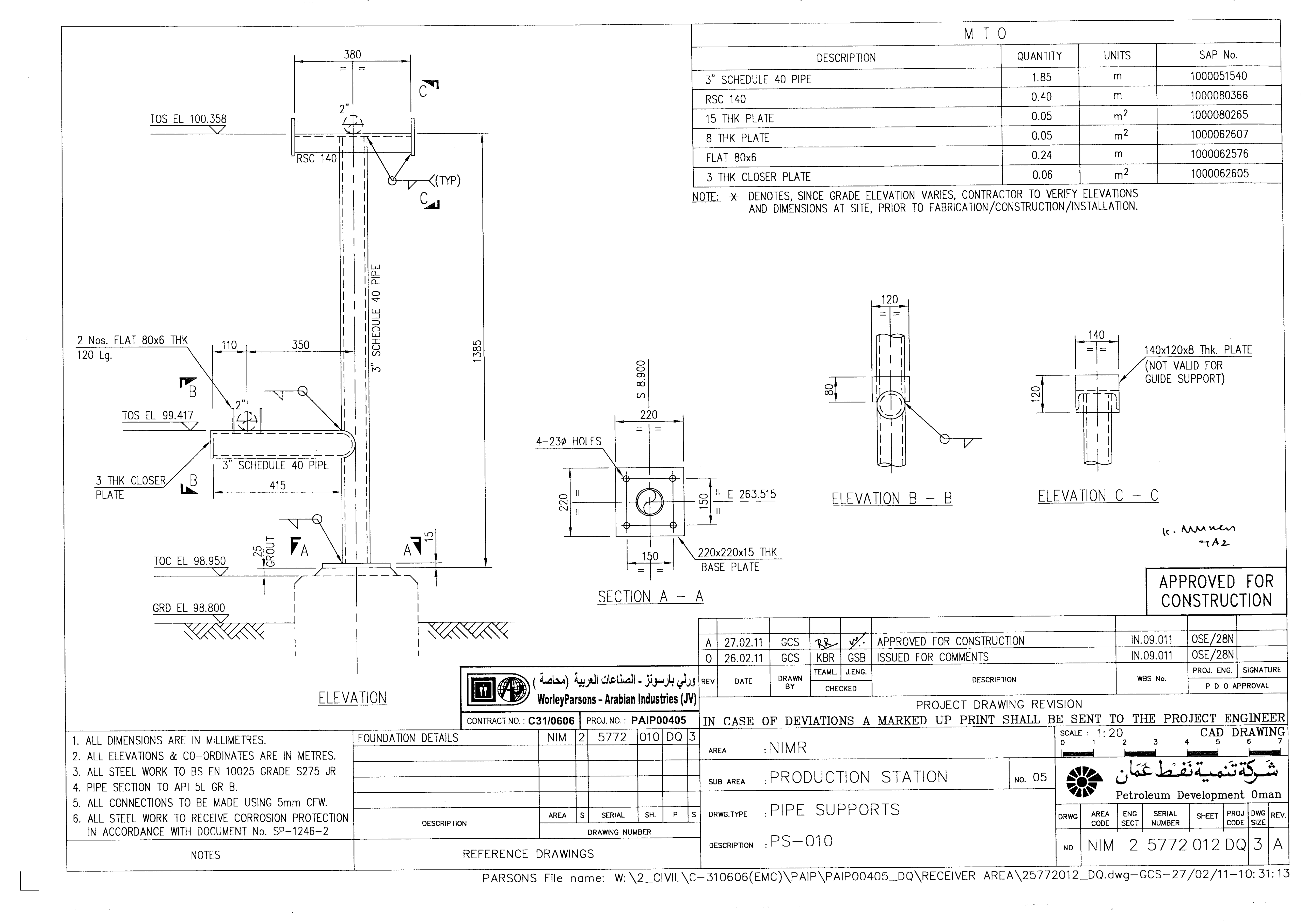
K. Muners TA2

Total MTO for Rebars.

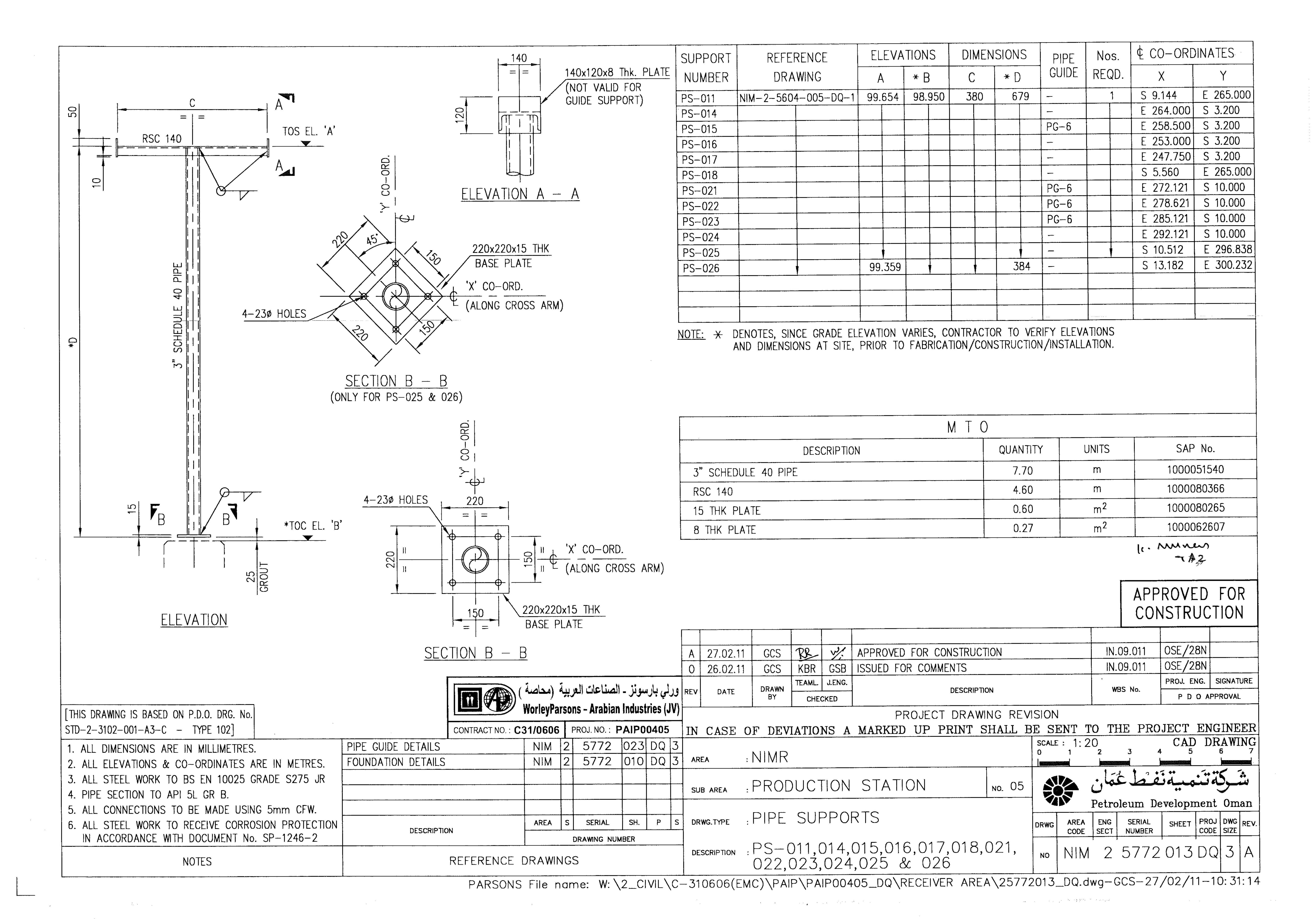
Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		262.95	188.70	101.40				
Weight (Kgs)		105.18	117.00	90.25				
Total Weight (Kgs)								312.430

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PS-008,010,11,	1	T8	17	12	204	925	21	125	700	125		
013 TO 0018	2	T10	17	12	204	925	21	125	700	125		
021 TO 026	3	T12	15	8	120	725	11	200	530			
033 & 34	4	T8	15	3	45	1375	51	300	300			
	5	T12	1	8	8	825	11	200	630			
	6	T8	1	4	4	1375	51	300	300			
	7	T12	1	8	8	975	11	200	780			
	8	T8	1	5	5	1375	51	300	300			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



M T O			
DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	1.85	m	1000051540
RSC 140	0.40	m	1000080366
15 THK PLATE	0.05	m^2	1000080265
8 THK PLATE	0.05	m^2	1000062607
FLAT 80x6	0.24	m	1000062576
3 THK CLOSER PLATE	0.06	m^2	1000062605



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS *B	DIMENSIONS C	DIMENSIONS *D	PIPE GUIDE	Nos. REQD.	℄ CO-ORDINATES X	℄ CO-ORDINATES Y
PS-011	NIM-2-5604-005-DQ-1	99.654	98.950	380	679	–	1	S 9.144	E 265.000
PS-014						–		E 264.000	S 3.200
PS-015						PG-6		E 258.500	S 3.200
PS-016						–		E 253.000	S 3.200
PS-017						–		E 247.750	S 3.200
PS-018						–		S 5.560	E 265.000
PS-021						PG-6		E 272.121	S 10.000
PS-022						PG-6		E 278.621	S 10.000
PS-023						PG-6		E 285.121	S 10.000
PS-024						–		E 292.121	S 10.000
PS-025						–		S 10.512	E 296.838
PS-026		99.359			384	–		S 13.182	E 300.232

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	7.70	m	1000051540
RSC 140	4.60	m	1000080366
15 THK PLATE	0.60	m^2	1000080265
8 THK PLATE	0.27	m^2	1000062607

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	P D O APPROVAL PROJ. ENG.	P D O APPROVAL SIGNATURE
A	27.02.11	GCS	RB	[illegible]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

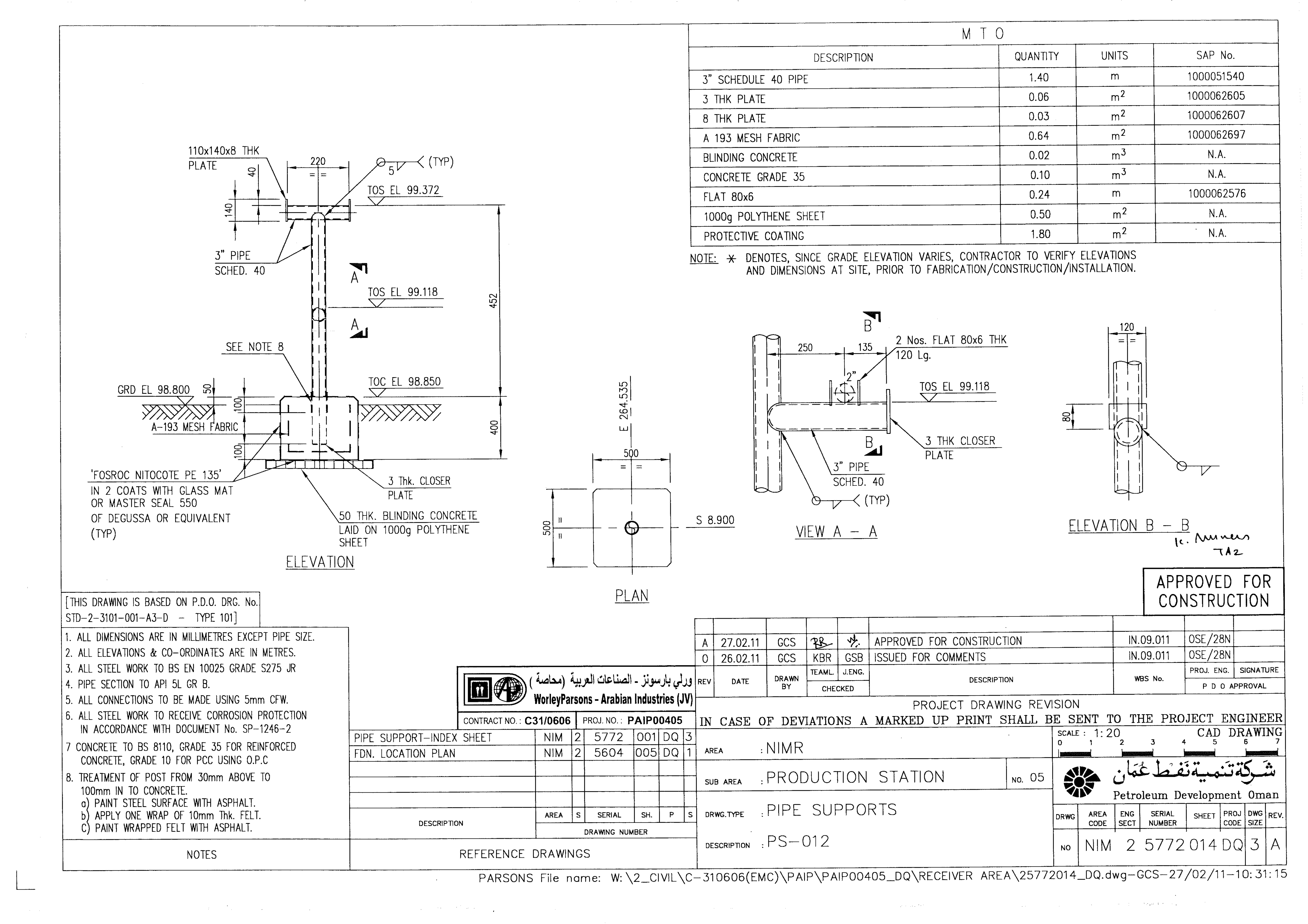
REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPE GUIDE DETAILS	NIM	2	5772	023	DQ	3
FOUNDATION DETAILS	NIM	2	5772	010	DQ	3

AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS-011,014,015,016,017,018,021, 022,023,024,025 & 026

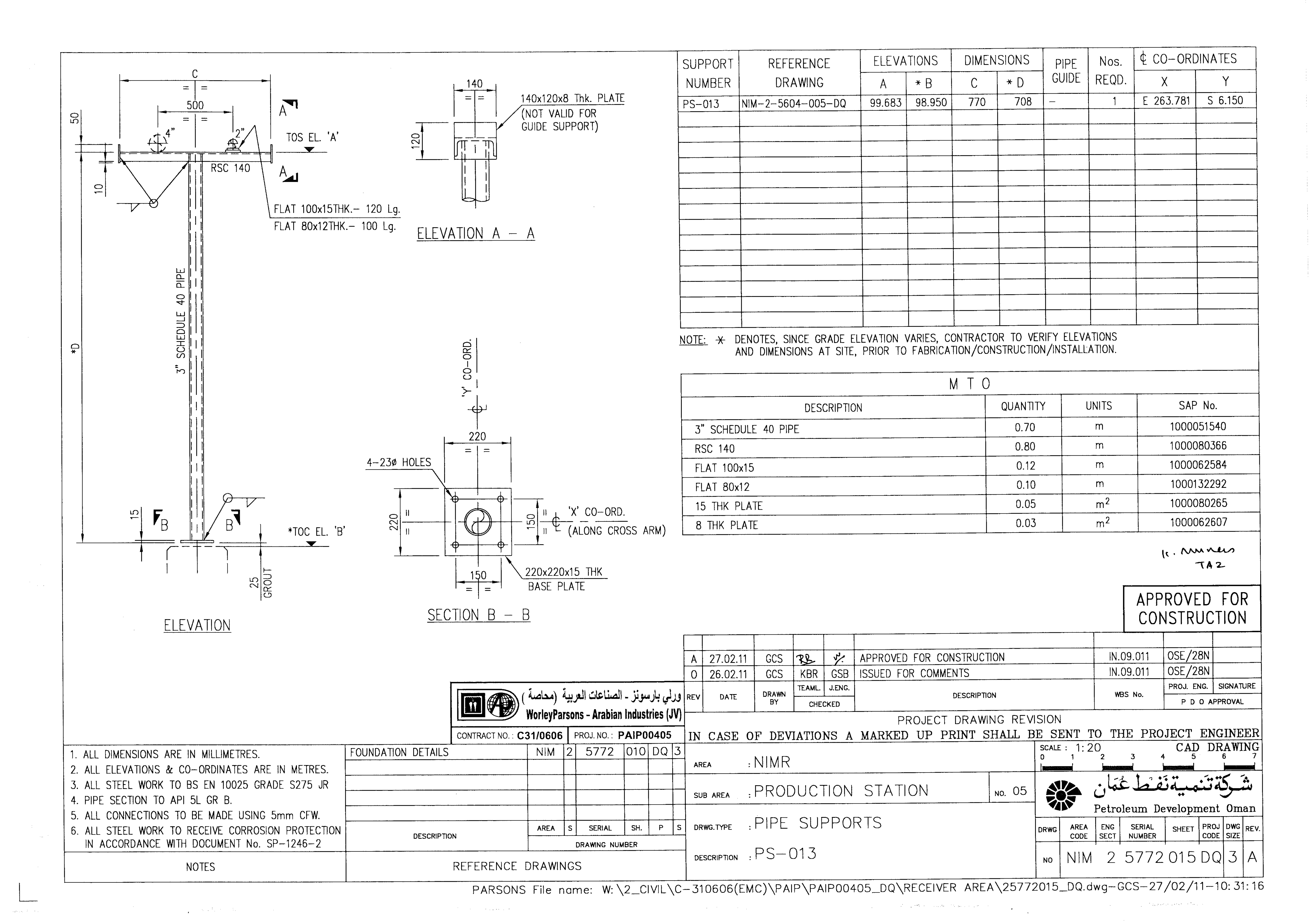
DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	013	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772013_DQ.dwg-GCS-27/02/11-10:31:14



M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	1.40	m	1000051540
3 THK PLATE	0.06	m^2	1000062605
8 THK PLATE	0.03	m^2	1000062607
A 193 MESH FABRIC	0.64	m^2	1000062697
BLINDING CONCRETE	0.02	m^3	N.A.
CONCRETE GRADE 35	0.10	m^3	N.A.
FLAT 80x6	0.24	m	1000062576
1000g POLYTHENE SHEET	0.50	m^2	N.A.
PROTECTIVE COATING	1.80	m^2	N.A.



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS *B	DIMENSIONS C	DIMENSIONS *D	PIPE GUIDE	Nos. REQD.	℄ CO-ORDINATES X	℄ CO-ORDINATES Y
PS-013	NIM-2-5604-005-DQ	99.683	98.950	770	708	–	1	E 263.781	S 6.150

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

MTO

DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	0.70	m	1000051540
RSC 140	0.80	m	1000080366
FLAT 100x15	0.12	m	1000062584
FLAT 80x12	0.10	m	1000132292
15 THK PLATE	0.05	m^2	1000080265
8 THK PLATE	0.03	m^2	1000062607

K. Mmes TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
FOUNDATION DETAILS	NIM	2	5772	010	DQ	3

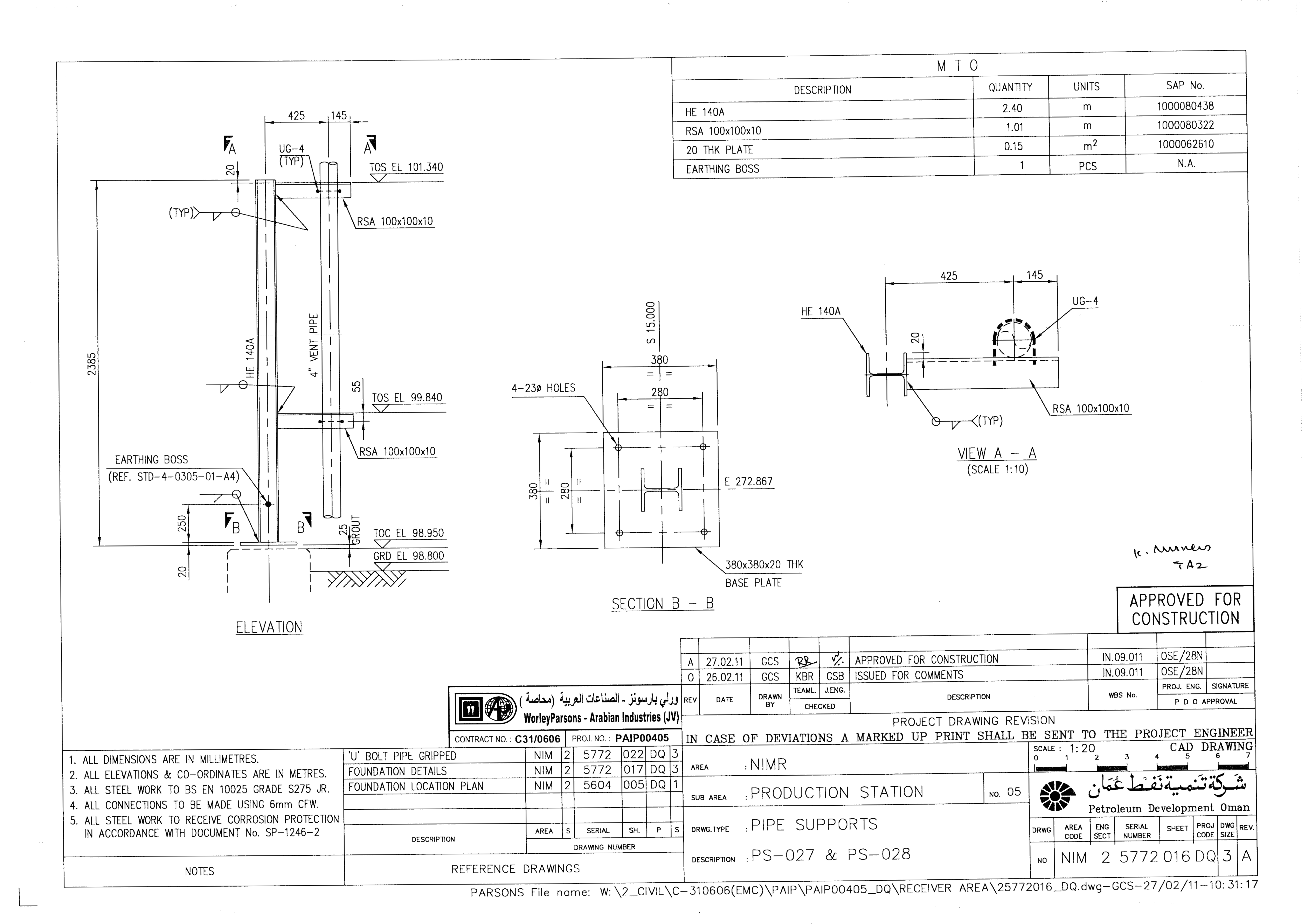
AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS–013

SCALE : 1:20 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	015	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772015_DQ.dwg-GCS-27/02/11-10:31:16



M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 140A	2.40	m	1000080438
RSA 100x100x10	1.01	m	1000080322
20 THK PLATE	0.15	m^2	1000062610
EARTHING BOSS	1	PCS	N.A.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB	V.	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR.
4. ALL CONNECTIONS TO BE MADE USING 6mm CFW.
5. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
'U' BOLT PIPE GRIPPED	NIM	2	5772	022	DQ	3
FOUNDATION DETAILS	NIM	2	5772	017	DQ	3
FOUNDATION LOCATION PLAN	NIM	2	5604	005	DQ	1

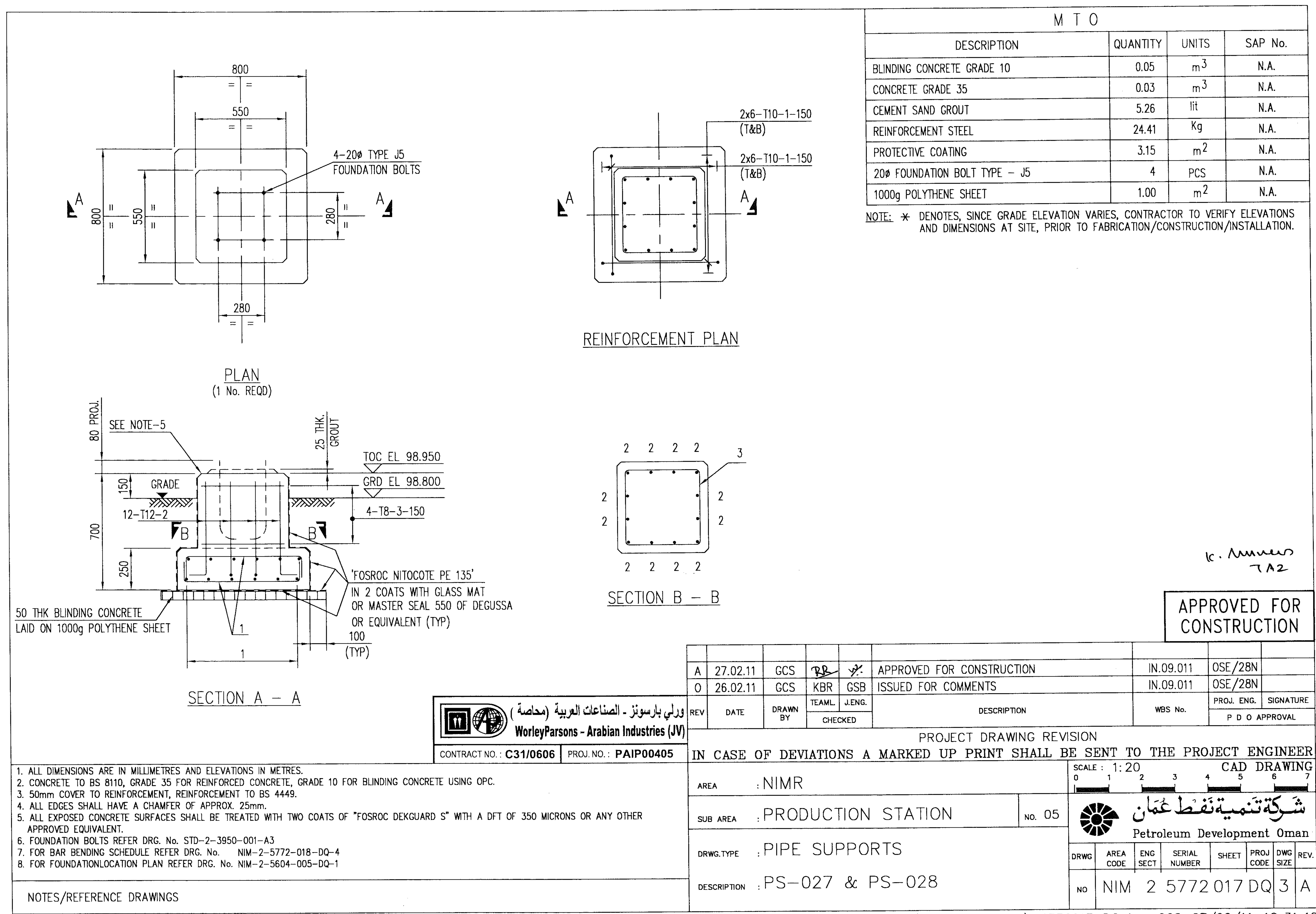
AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG. TYPE : PIPE SUPPORTS
DESCRIPTION : PS-027 & PS-028

SCALE : 1:20 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	5772 016	DQ	3		A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772016_DQ.dwg-GCS-27/02/11-10:31:17



M T O			
DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE GRADE 10	0.05	m^3	N.A.
CONCRETE GRADE 35	0.03	m^3	N.A.
CEMENT SAND GROUT	5.26	lit	N.A.
REINFORCEMENT STEEL	24.41	Kg	N.A.
PROTECTIVE COATING	3.15	m^2	N.A.
20ø FOUNDATION BOLT TYPE – J5	4	PCS	N.A.
1000g POLYTHENE SHEET	1.00	m^2	N.A.

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RR	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. ALL EDGES SHALL HAVE A CHAMFER OF APPROX. 25mm.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOUNDATION BOLTS REFER DRG. No. STD-2-3950-001-A3
7. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-5772-018-DQ-4
8. FOR FOUNDATIONLOCATION PLAN REFER DRG. No. NIM-2-5604-005-DQ-1

NOTES/REFERENCE DRAWINGS

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG. TYPE : PIPE SUPPORTS

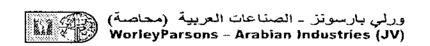
DESCRIPTION : PS-027 & PS-028

SCALE : 1:20 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	017	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772017_DQ.dwg-GCS-27/02/11-10:31:18



BAR BENDING SCHEDULE

JOB NO.: PAIP00238
PART ID.: PRODUCTION STATION PS-027 & 028
REF. DWG NO.: NIM-2-5772-017-DQ-3

Document No.: NIM-2-5772-018-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG RR
Date: 27.02.11

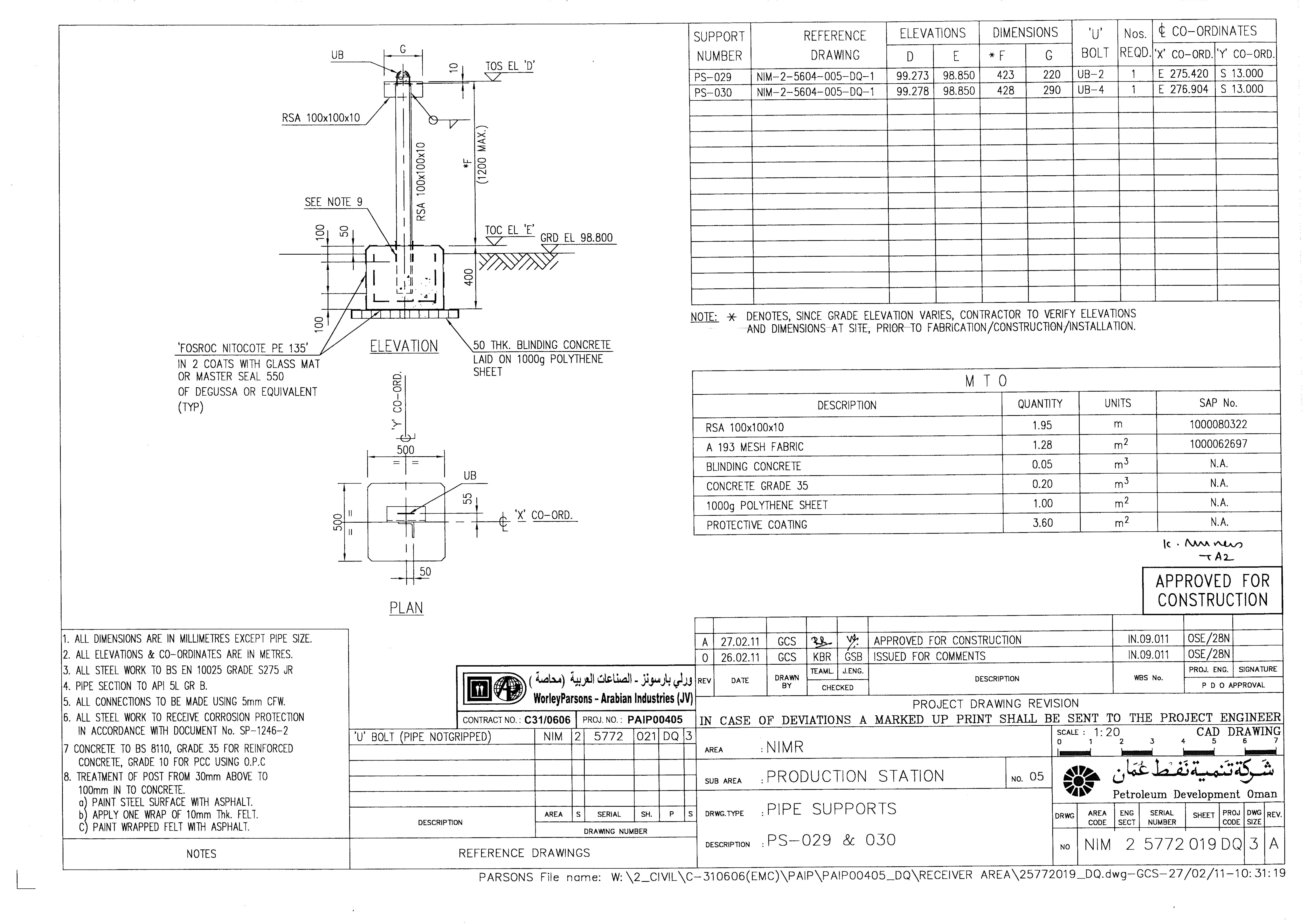
K. Munes
TA2

Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		7.90	22.20	8.40				
Weight (Kgs)		3.16	13.77	7.48				
Total Weight (Kgs)								24.410

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PS-027 & 028	1	T10	1	24	24	925	21	125	700	125		
	2	T12	1	12	12	700	11	125	580			
	3	T8	1	4	4	1975	51	450	450			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS D	ELEVATIONS E	DIMENSIONS *F	DIMENSIONS G	'U' BOLT	Nos. REQD.	℄ CO-ORDINATES 'X' CO-ORD.	℄ CO-ORDINATES 'Y' CO-ORD.
PS-029	NIM-2-5604-005-DQ-1	99.273	98.850	423	220	UB-2	1	E 275.420	S 13.000
PS-030	NIM-2-5604-005-DQ-1	99.278	98.850	428	290	UB-4	1	E 276.904	S 13.000

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
RSA 100x100x10	1.95	m	1000080322
A 193 MESH FABRIC	1.28	m^2	1000062697
BLINDING CONCRETE	0.05	m^3	N.A.
CONCRETE GRADE 35	0.20	m^3	N.A.
1000g POLYTHENE SHEET	1.00	m^2	N.A.
PROTECTIVE COATING	3.60	m^2	N.A.

K. Amnews TA2

APPROVED FOR CONSTRUCTION

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT PIPE SIZE.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2
7 CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR PCC USING O.P.C
8. TREATMENT OF POST FROM 30mm ABOVE TO 100mm IN TO CONCRETE.
   a) PAINT STEEL SURFACE WITH ASPHALT.
   b) APPLY ONE WRAP OF 10mm Thk. FELT.
   C) PAINT WRAPPED FELT WITH ASPHALT.

NOTES

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
'U' BOLT (PIPE NOTGRIPPED)	NIM	2	5772	021	DQ	3

DRAWING NUMBER

REFERENCE DRAWINGS

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB	VG	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE : 1:20 — 0 1 2 3 4 5 6 7 — CAD DRAWING

AREA : NIMR

SUB AREA : PRODUCTION STATION — NO. 05

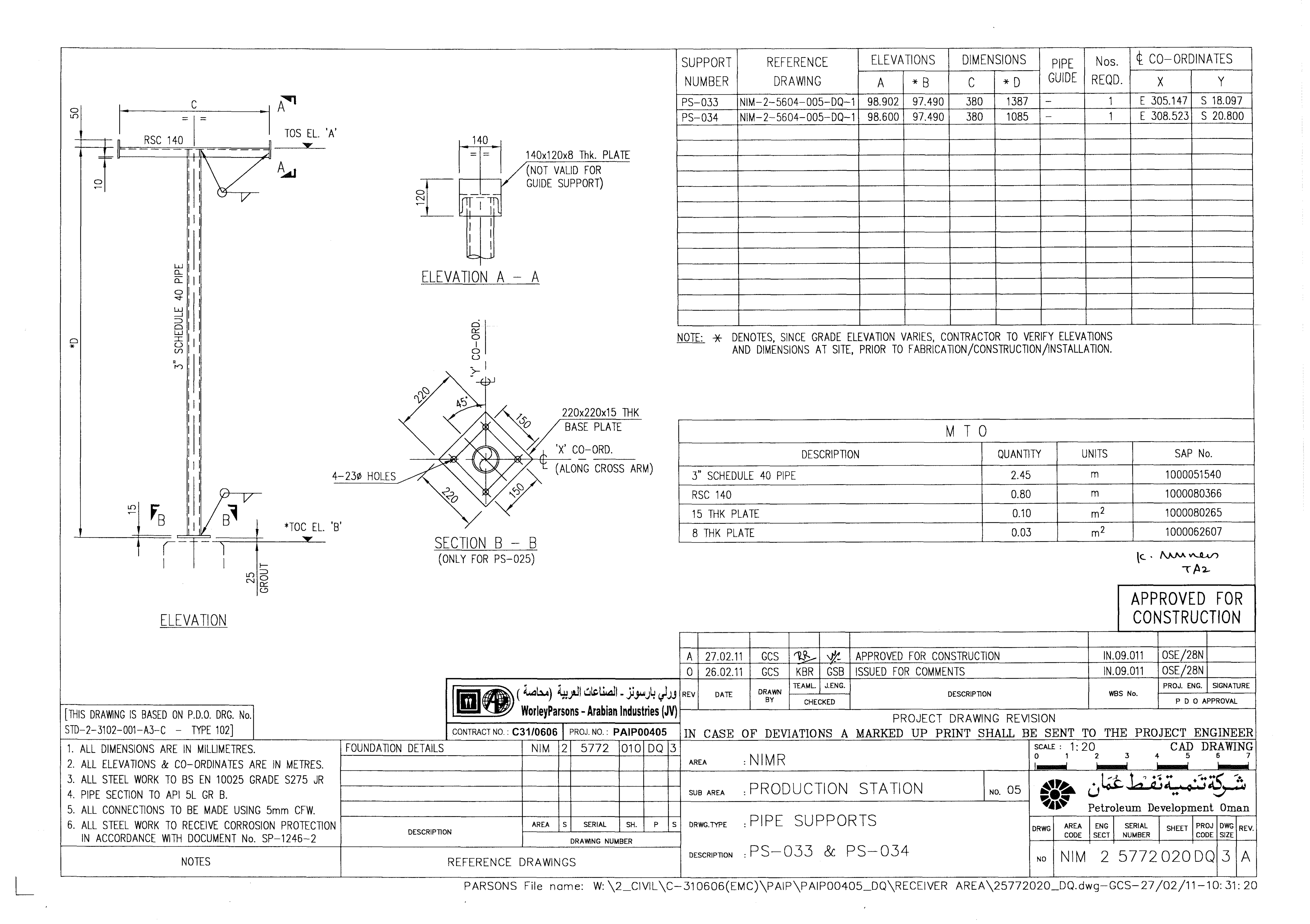
DRWG.TYPE : PIPE SUPPORTS

DESCRIPTION : PS–029 & 030

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	019	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772019_DQ.dwg-GCS-27/02/11-10:31:19



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS *B	DIMENSIONS C	DIMENSIONS *D	PIPE GUIDE	Nos. REQD.	℄ CO-ORDINATES X	℄ CO-ORDINATES Y
PS-033	NIM-2-5604-005-DQ-1	98.902	97.490	380	1387	–	1	E 305.147	S 18.097
PS-034	NIM-2-5604-005-DQ-1	98.600	97.490	380	1085	–	1	E 308.523	S 20.800

NOTE: ✳ DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	2.45	m	1000051540
RSC 140	0.80	m	1000080366
15 THK PLATE	0.10	m^2	1000080265
8 THK PLATE	0.03	m^2	1000062607

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	TEAML. (CHECKED)	J.ENG. (CHECKED)	DESCRIPTION	WBS No.	PROJ. ENG. (P D O APPROVAL)	SIGNATURE (P D O APPROVAL)
A	27.02.11	GCS	RR	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3102-001-A3-C – TYPE 102]

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

NOTES

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
FOUNDATION DETAILS	NIM	2	5772	010	DQ	3

DRAWING NUMBER

REFERENCE DRAWINGS

SCALE : 1:20 — CAD DRAWING

AREA : NIMR

SUB AREA : PRODUCTION STATION — NO. 05

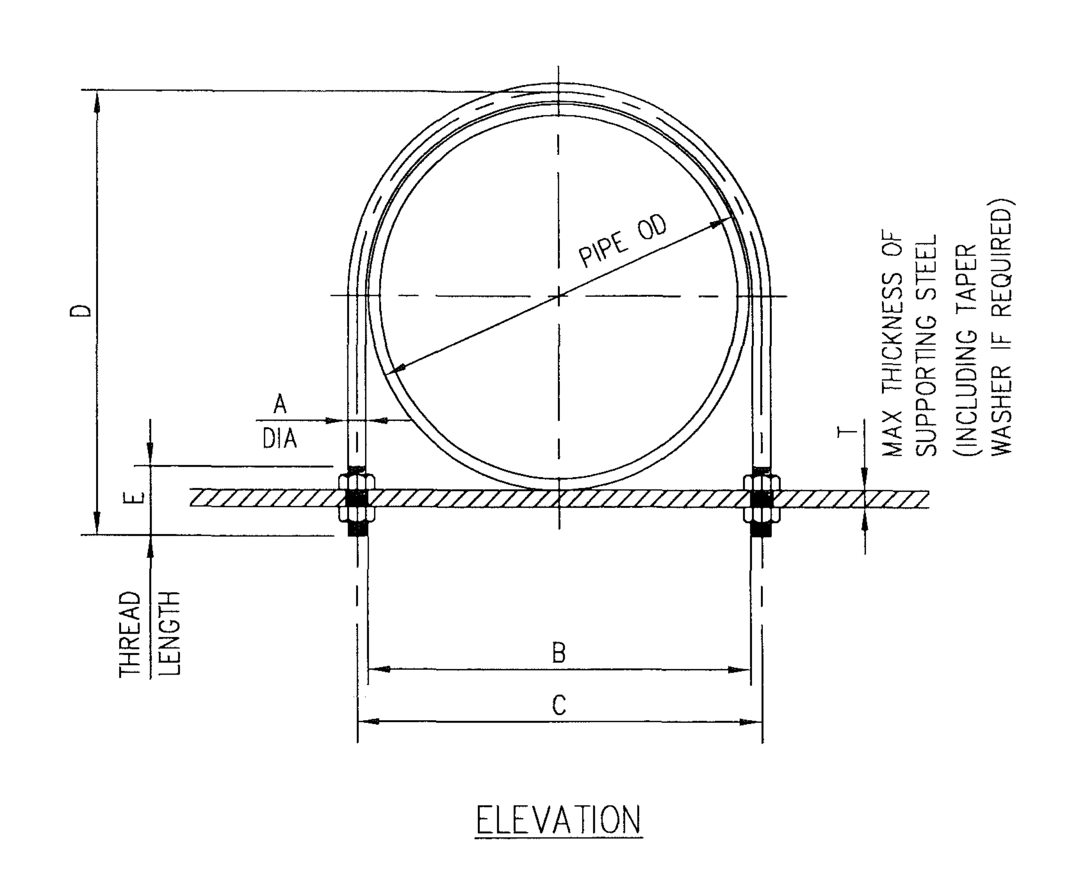
DRWG.TYPE : PIPE SUPPORTS

DESCRIPTION : PS–033 & PS–034

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	020	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772020_DQ.dwg-GCS-27/02/11-10:31:20



ELEVATION

PIPE GUIDE DESIGNATION	NOMINAL PIPE SIZE INCHES	NOMINAL PIPE SIZE MM	PIPE OD	A	B	C	D	E	T	Nos. REQD.
UB-0.5	½"	15	21.3	8	32	40	45	30	10	–
UB-0.75	¾"	20	26.7	8	37	45	55	35	10	–
UB-1	1"	25	33.4	8	42	50	60	35	10	–
UB-1.5	1½"	40	48.3	10	55	65	85	45	16	–
UB-2	2"	50	60.3	10	70	80	100	45	16	1
UB-3	3"	80	88.9	16	94	110	140	60	19	–
UB-4	4"	100	114.3	16	124	140	165	60	19	1
UB-6	6"	150	168.3	20	175	195	225	70	19	–
UB-8	8"	200	219.1	20	230	250	275	70	19	–
UB-10	10"	250	273.0	20	285	305	335	75	22	–
UB-12	12"	300	323.9	20	335	355	385	75	22	–
UB-14	14"	350	355.6	24	366	390	425	80	22	–
UB-16	16"	400	406.4	24	416	440	475	80	22	–
UB-18	18"	450	457.0	24	471	495	525	80	22	–
UB-20	20"	500	508.0	24	521	545	575	80	22	–
UB-24	24"	600	610.0	24	621	645	675	80	22	–
UB-28	28"	700	711.2	24	721	745	775	80	22	–
UB-30	30"	750	762.0	24	771	795	825	80	22	–

MATERIAL GUIDE			
BAR		NUTS	
SIZE	SAP No.	SIZE	SAP No.
8	1000080335	M8	1000063795
10	1000062586	M10	1000063796
16	1000062588	M16	1000063798
20	N.A.	M20	1000063799
24	N.A.	M24	1000120055

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	27.02.11	GCS	RB	[illegible]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3818-001-A3-C – TYPE 818]

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: **C31/0606** PROJ. NO.: **PAIP00405**

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. EACH BOLT TO BE SUPPLIED WITH 4 NUTS.
3. MATERIAL–BOLTS TO BS EN 10025 GR S275 JR NUTS TO ISO 898/11 GR 8
4. U-BOLT CORROSION PROTECTION SHALL COMPLY WITH SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S

DRAWING NUMBER

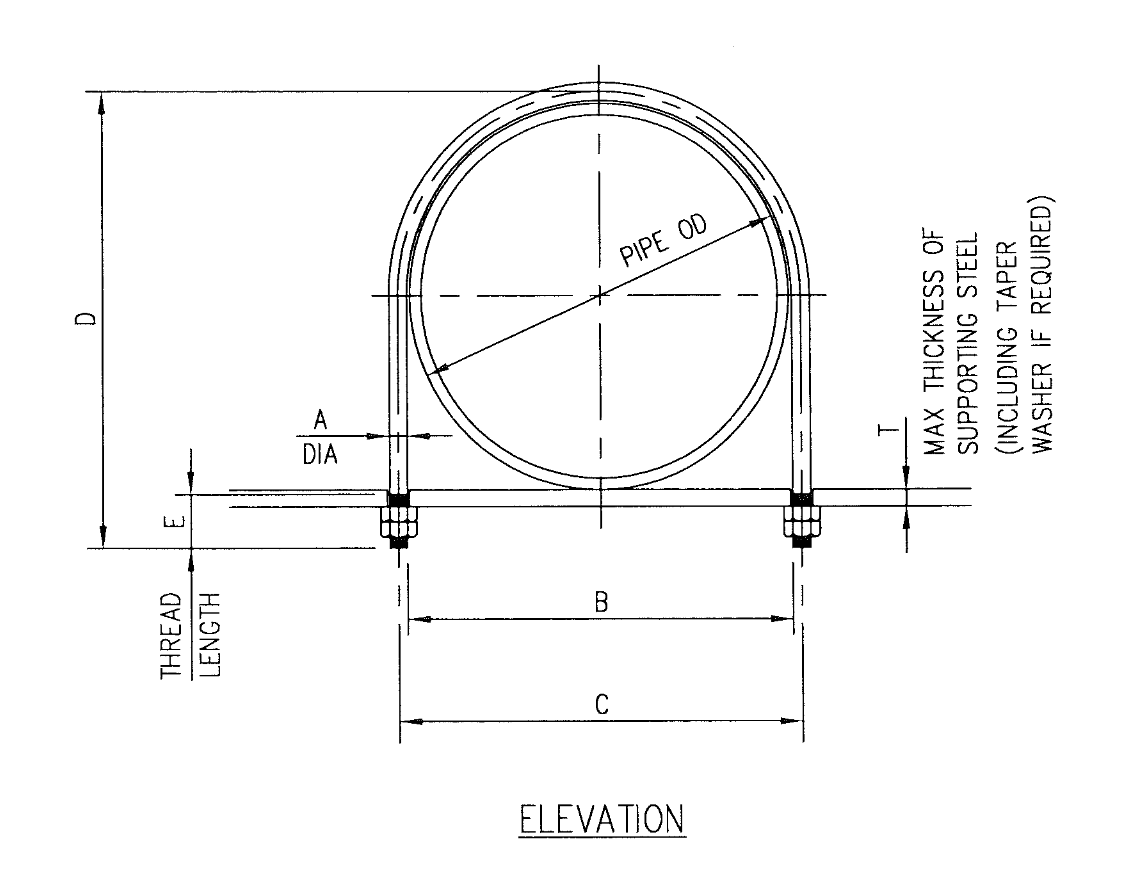
AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : 'U' BOLT (PIPE NOT GRIPPED) DETAILS

SCALE : – CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	021	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772021_DQ.dwg-GCS-27/02/11-10:31:21



ELEVATION

PIPE GUIDE DESIGNATION	NOMINAL PIPE SIZE INCHES	NOMINAL PIPE SIZE MM	PIPE OD	DIMENSIONS A	B	C	D	E	T	Nos. REQD.
UG-0.5	½"	15	21.3	8	22	30	50	25	10	–
UG-0.75	¾"	20	26.7	8	27	35	60	25	10	–
UG-1	1"	25	33.4	8	37	45	65	25	10	–
UG-1.5	1½"	40	48.3	10	50	60	90	35	16	–
UG-2	2"	50	60.3	10	65	75	100	35	16	1
UG-3	3"	80	88.9	16	89	105	150	50	19	–
UG-4	4"	100	114.3	16	119	135	175	50	19	2
UG-6	6"	150	168.3	20	170	190	235	55	19	–
UG-8	8"	200	219.1	20	225	245	295	60	19	–
UG-10	10"	250	273.0	20	280	300	350	60	22	–
UG-12	12"	300	323.9	20	330	350	400	60	22	–
UG-14	14"	350	355.6	24	361	385	440	65	22	–
UG-16	16"	400	406.4	24	411	435	490	65	22	–
UG-18	18"	450	457.0	24	461	485	540	70	22	–
UG-20	20"	500	508.0	24	516	540	590	70	22	–
UG-24	24"	600	610.0	24	616	640	700	70	22	–
UG-28	28"	700	711.2	24	711	735	800	70	22	–
UG-30	30"	750	762.0	24	766	790	850	70	22	–

MATERIAL GUIDE

BAR SIZE	BAR SAP NO No.	NUTS SIZE	NUTS SAP NO:	LOCKNUTS SIZE	LOCKNUTS SAP No.
8	1000080335	M8	1000063795	M8	1000080222
10	1000062586	M10	1000063796	M10	1000063819
16	1000062588	M16	1000063798	M16	1000063820
20	N.A.	M20	1000063799	M20	1000063821
24	N.A.	M24	1000120055	M24	1000120066

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RR	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3817-001-A3-D – TYPE 817]

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. EACH BOLT TO BE SUPPLIED WITH 2 NUTS & 2 LOCKNUTS.
3. MATERIAL-BOLTS TO BS EN 10025 GR S275 JR NUTS TO ISO 898/11 GR 8
4. U-BOLT CORROSION PROTECTION SHALL COMPLY WITH SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S

DRAWING NUMBER

CAD DRAWING

SCALE : –

شركة تنمية نفط عمان
Petroleum Development Oman

AREA : NIMR

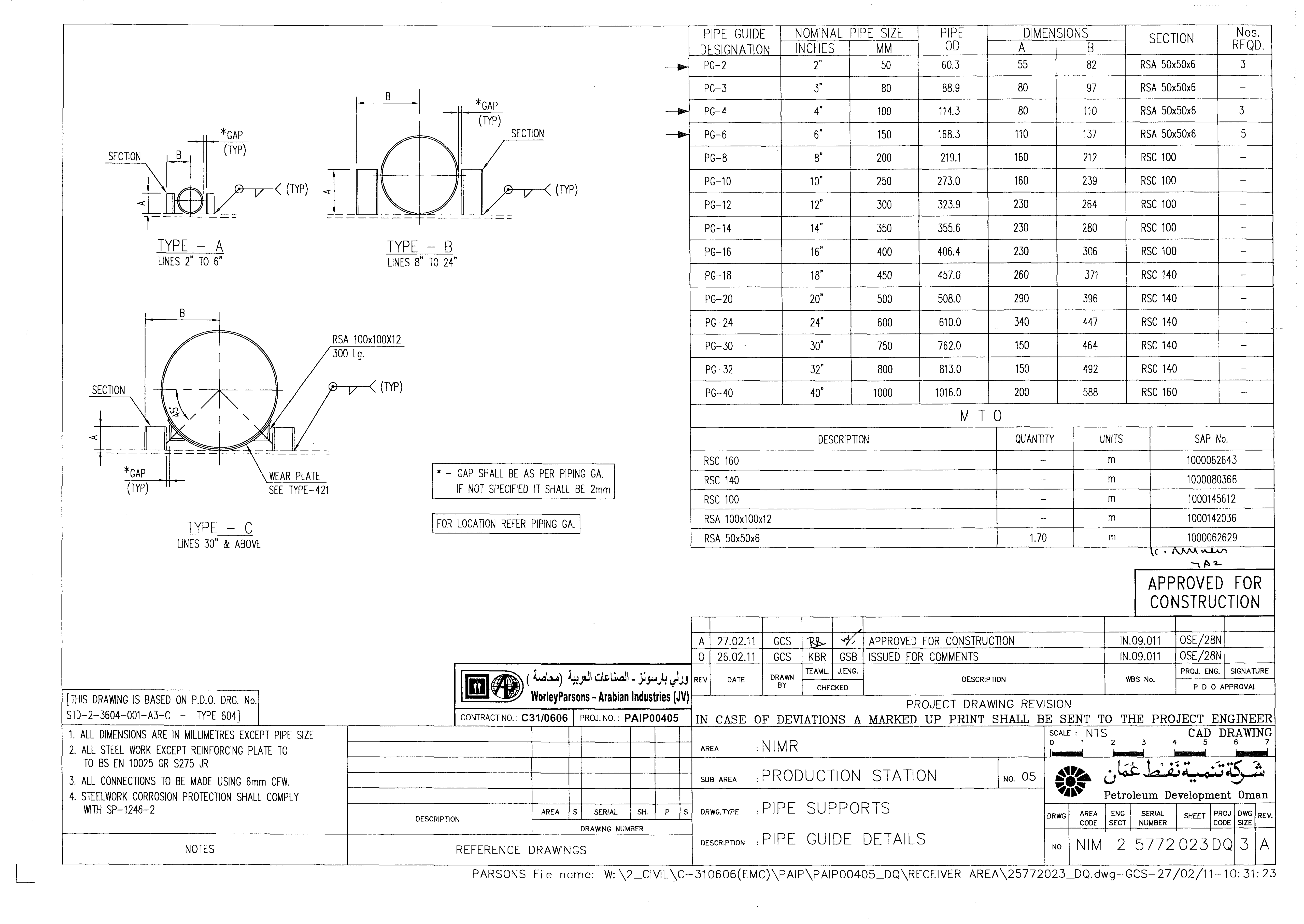
SUB AREA : PRODUCTION STATION | NO. 05

DRWG.TYPE : PIPE SUPPORTS

DESCRIPTION : 'U' BOLT (PIPE NOT GRIPPED) DETAILS

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	5772	022	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772022_DQ.dwg-GCS-27/02/11-10:31:22



PIPE GUIDE DESIGNATION	NOMINAL PIPE SIZE INCHES	NOMINAL PIPE SIZE MM	PIPE OD	DIMENSIONS A	DIMENSIONS B	SECTION	Nos. REQD.
PG-2	2"	50	60.3	55	82	RSA 50x50x6	3
PG-3	3"	80	88.9	80	97	RSA 50x50x6	–
PG-4	4"	100	114.3	80	110	RSA 50x50x6	3
PG-6	6"	150	168.3	110	137	RSA 50x50x6	5
PG-8	8"	200	219.1	160	212	RSC 100	–
PG-10	10"	250	273.0	160	239	RSC 100	–
PG-12	12"	300	323.9	230	264	RSC 100	–
PG-14	14"	350	355.6	230	280	RSC 100	–
PG-16	16"	400	406.4	230	306	RSC 100	–
PG-18	18"	450	457.0	260	371	RSC 140	–
PG-20	20"	500	508.0	290	396	RSC 140	–
PG-24	24"	600	610.0	340	447	RSC 140	–
PG-30	30"	750	762.0	150	464	RSC 140	–
PG-32	32"	800	813.0	150	492	RSC 140	–
PG-40	40"	1000	1016.0	200	588	RSC 160	–

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
RSC 160	–	m	1000062643
RSC 140	–	m	1000080366
RSC 100	–	m	1000145612
RSA 100x100x12	–	m	1000142036
RSA 50x50x6	1.70	m	1000062629

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB		APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3604-001-A3-C – TYPE 604]

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES EXCEPT PIPE SIZE
2. ALL STEEL WORK EXCEPT REINFORCING PLATE TO TO BS EN 10025 GR S275 JR
3. ALL CONNECTIONS TO BE MADE USING 6mm CFW.
4. STEELWORK CORROSION PROTECTION SHALL COMPLY WITH SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S

DRAWING NUMBER

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : PIPE SUPPORTS

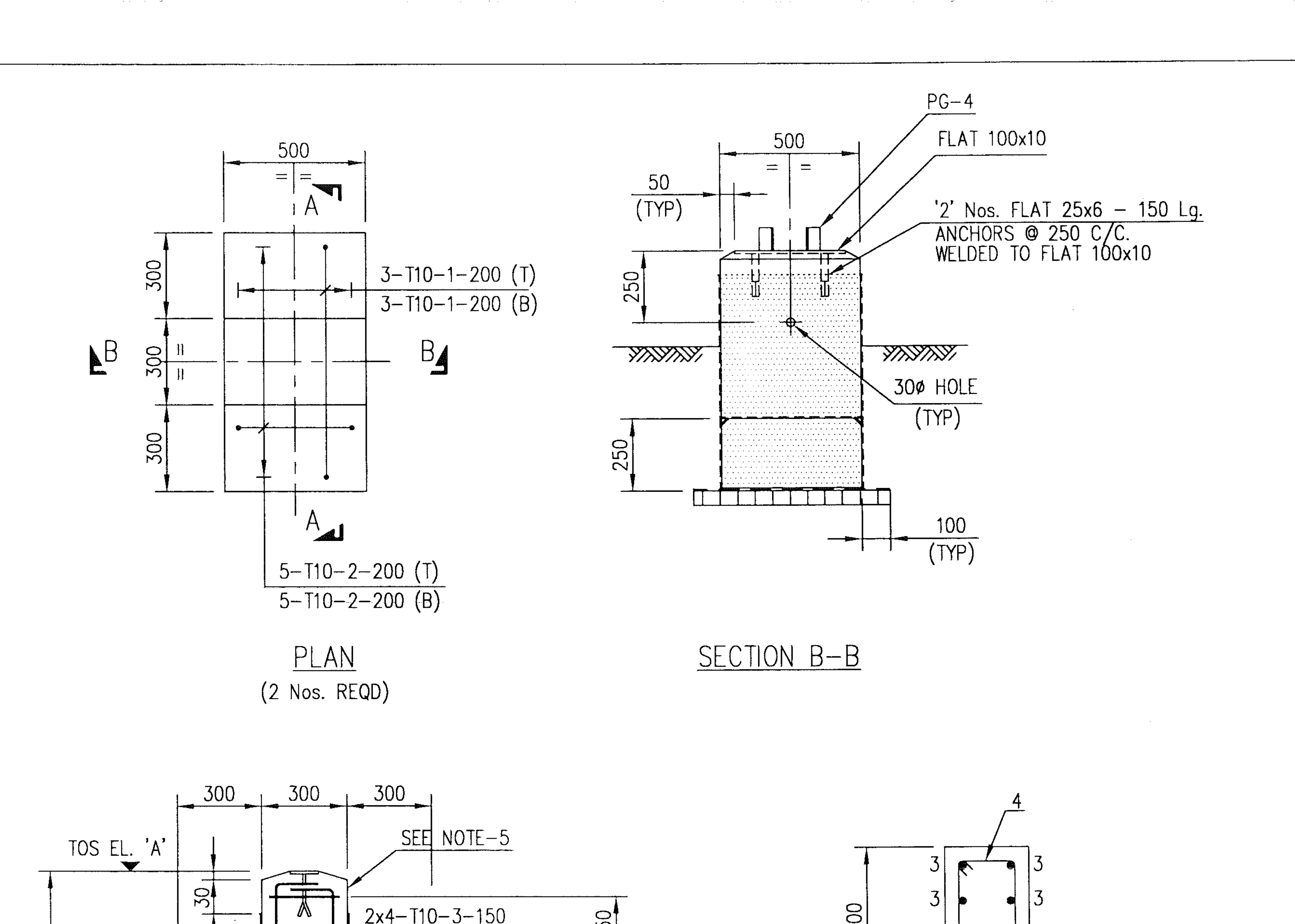
DESCRIPTION : PIPE GUIDE DETAILS

SCALE : NTS — CAD DRAWING — 0 1 2 3 4 5 6 7

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	023	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772023_DQ.dwg-GCS-27/02/11-10:31:23



SLEEPER TYPE	LOCATION DRAWING	ELEVATIONS		PIPE GUIDE	Nos. REQD.
		A	* B		
SL-001	NIM-2-5604-005-DQ-1	99.134	98.800	PG-4	1
SL-002	NIM-2-5604-005-DQ-1	99.123	98.800	PG-4	1

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	0.80	m^3	N.A.
CONCRETE GRADE 35	0.41	m^3	N.A.
FLAT 100x10	0.80	m	1000062581
FLAT 25x6	0.60	m	1000062571
REINFORCEMENT STEEL	37.05	Kg	N.A.
PROTECTIVE COATING	5.30	m^2	N.A.
POLYTHENE SHEET 1000g	1.60	m^2	N.A.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB	W	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. TANGS WELDED TO WEAR PLATE USING 6mm CFW. AND EXPOSED STEEL WORK TO BE PAINTED IN ACC. WITH SP-1246-2
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-5772-025-DQ-4
7. PIPE GUIDE DETAILS REFER DRG NO. NIM-2-5572-023-DQ-3

NOTES/REFERENCE DRAWINGS

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEM UPGRADE NO. 05

DRWG.TYPE : PIPE SUPPORTS-SLEEPER DETAILS

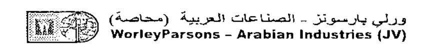
DESCRIPTION : SL-001 & 002

SCALE : 1:20 — CAD DRAWING

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	024	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772024_DQ.dwg-GCS-27/02/11-10:31:24



BAR BENDING SCHEDULE

JOB NO.: PAIP00405
PART ID.: NIMR SLUDGE PIT SYSTEM UPGRADE SL-001&002
REF. DWG NO.: NIM-2-5772-024-DQ-3

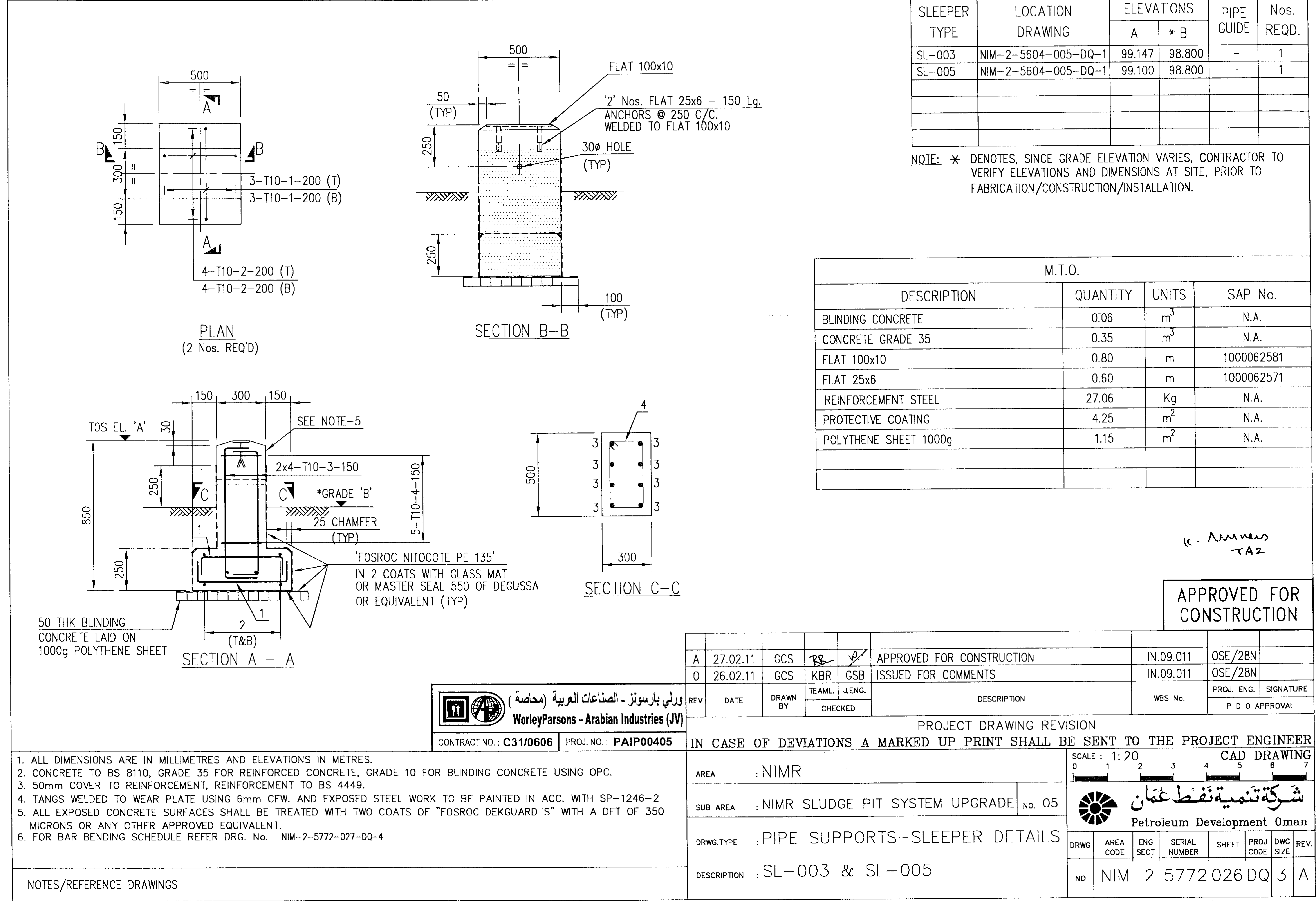
Document No.: NIM-2-5772-025-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG
Date: 27.02.11

Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)			59.75					
Weight (Kgs)			37.05					
Total Weight (Kgs)								37.050

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
SL-001&002	1	T10	2	6	12	1075	21	150	800	150		
	2	T10	2	10	20	675	21	150	400	150		
	3	T10	2	8	16	1225	21	200	700	350		
	4	T10	2	5	10	1375	51	200	400			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



SLEEPER TYPE	LOCATION DRAWING	ELEVATIONS A	ELEVATIONS * B	PIPE GUIDE	Nos. REQD.
SL-003	NIM-2-5604-005-DQ-1	99.147	98.800	-	1
SL-005	NIM-2-5604-005-DQ-1	99.100	98.800	-	1

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	0.06	m^3	N.A.
CONCRETE GRADE 35	0.35	m^3	N.A.
FLAT 100x10	0.80	m	1000062581
FLAT 25x6	0.60	m	1000062571
REINFORCEMENT STEEL	27.06	Kg	N.A.
PROTECTIVE COATING	4.25	m^2	N.A.
POLYTHENE SHEET 1000g	1.15	m^2	N.A.

K. Mumeus TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	TEAML. (CHECKED)	J.ENG. (CHECKED)	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RR	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. TANGS WELDED TO WEAR PLATE USING 6mm CFW. AND EXPOSED STEEL WORK TO BE PAINTED IN ACC. WITH SP-1246-2
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-5772-027-DQ-4

NOTES/REFERENCE DRAWINGS

SCALE : 1:20 | CAD DRAWING

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEM UPGRADE | NO. 05

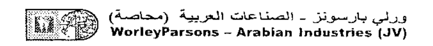
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Petroleum Development Oman

DRWG.TYPE : PIPE SUPPORTS-SLEEPER DETAILS

DESCRIPTION : SL-003 & SL-005

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	026	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772026_DQ.dwg-GCS-27/02/11-10:31:25



BAR BENDING SCHEDULE

JOB NO.:	**PAIP00405**	**Document No.:**	NIM-2-5772-027-DQ-4
PART ID.:	**NIMR SLUDGE PIT SYSTEM UPGRADE SL-003&005**	**Revision No.:**	A
		Prepared by:	GCS
		Checked by:	PNG
REF. DWG NO.:	**NIM-2-5772-026-DQ-3**	Date:	27.02.11

Total MTO for Rebars.

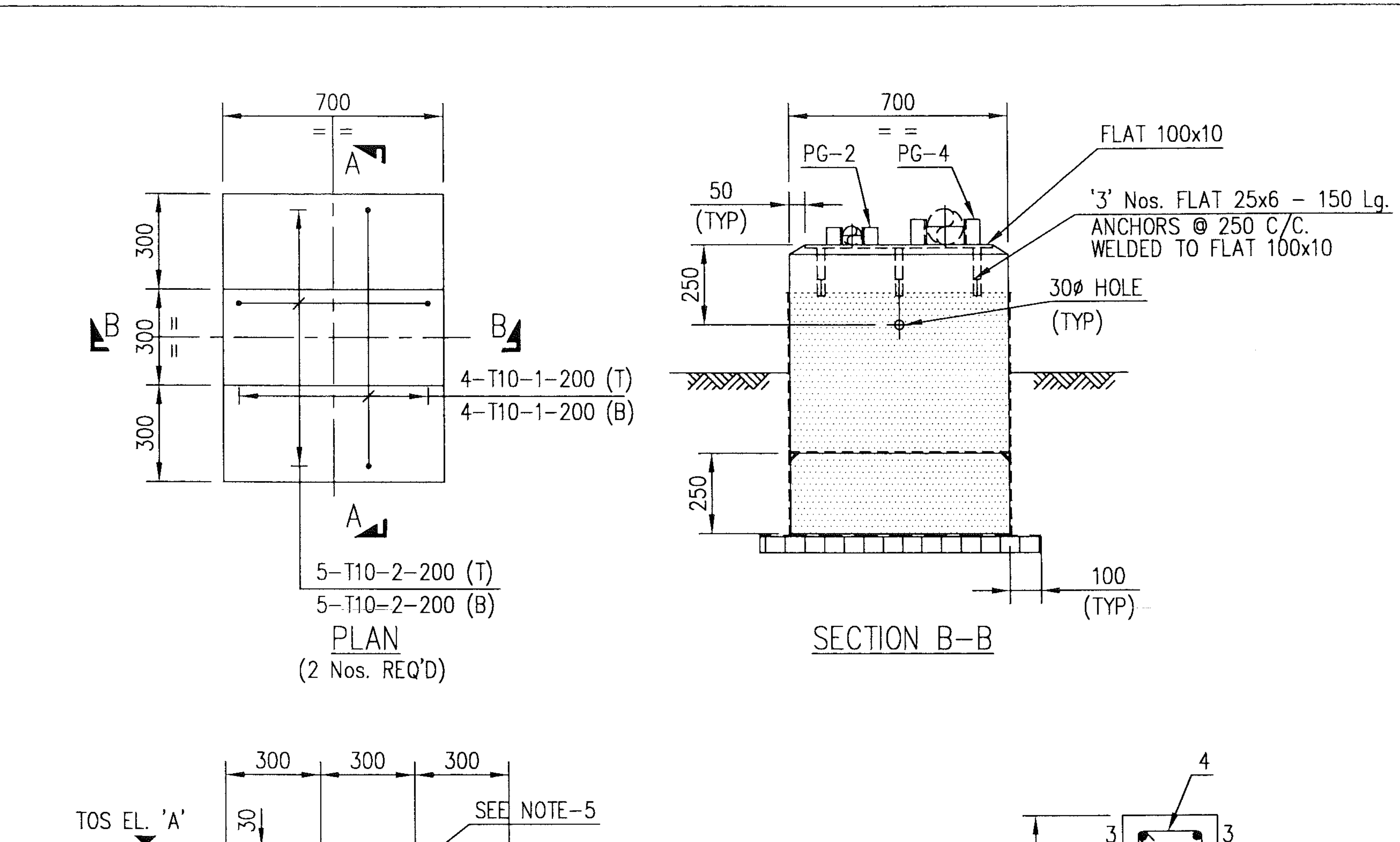
Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)			43.65					
Weight (Kgs)			27.07					
Total Weight (Kgs)								27.070

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
SL-003&005	1	T10	2	6	12	775	21	150	500	150		
	2	T10	2	8	16	675	21	150	400	150		
	3	T10	2	4	8	1225	21	200	700	350		
	4	T10	2	5	10	1375	51	200	400			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm

SLEEPER TYPE	LOCATION DRAWING	ELEVATIONS A	ELEVATIONS * B	PIPE GUIDE	Nos. REQD.
SL-004	NIM-2-5604-005-DQ-1	99.105	98.800	PG-4 & 2	1
SL-006	NIM-2-5604-005-DQ-1	99.090	98.800	-	1

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.



M.T.O.			
DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	0.10	m^3	N.A.
CONCRETE GRADE 35	0.57	m^3	N.A.
FLAT 100x10	1.20	m	1000062581
FLAT 25x6	0.90	m	1000062571
REINFORCEMENT STEEL	47.71	Kg	N.A.
PROTECTIVE COATING	6.65	m^2	N.A.
POLYTHENE SHEET 1000g	2.00	m^2	N.A.

K. Munes
TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RL	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	
							P D O APPROVAL	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. TANGS WELDED TO WEAR PLATE USING 6mm CFW. AND EXPOSED STEEL WORK TO BE PAINTED IN ACC. WITH SP-1246-2
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-5772-029-DQ-4
7. PIPE GUIDE DETAILS REFER DRG NO. NIM-2-5572-023-DQ-3

NOTES/REFERENCE DRAWINGS

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEM UPGRADE NO. 05

DRWG.TYPE : PIPE SUPPORTS-SLEEPER DETAILS

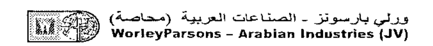
DESCRIPTION : SL-004 & SL-006

SCALE : 1:20 — CAD DRAWING
0 1 2 3 4 5 6 7

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	028	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772028_DQ.dwg-GCS-27/02/11-10:31:26



BAR BENDING SCHEDULE

JOB NO.:	PAIP00405	Document No.:	NIM-2-5772-029-DQ-4
PART ID.:	NIMR SLUDGE PIT SYSTEM UPGRADE	Revision No.:	A
	SL-004&006	Prepared by:	GCS
		Checked by:	PNG
REF. DWG NO.:	NIM-2-5772-028-DQ-3	Date:	27.02.11

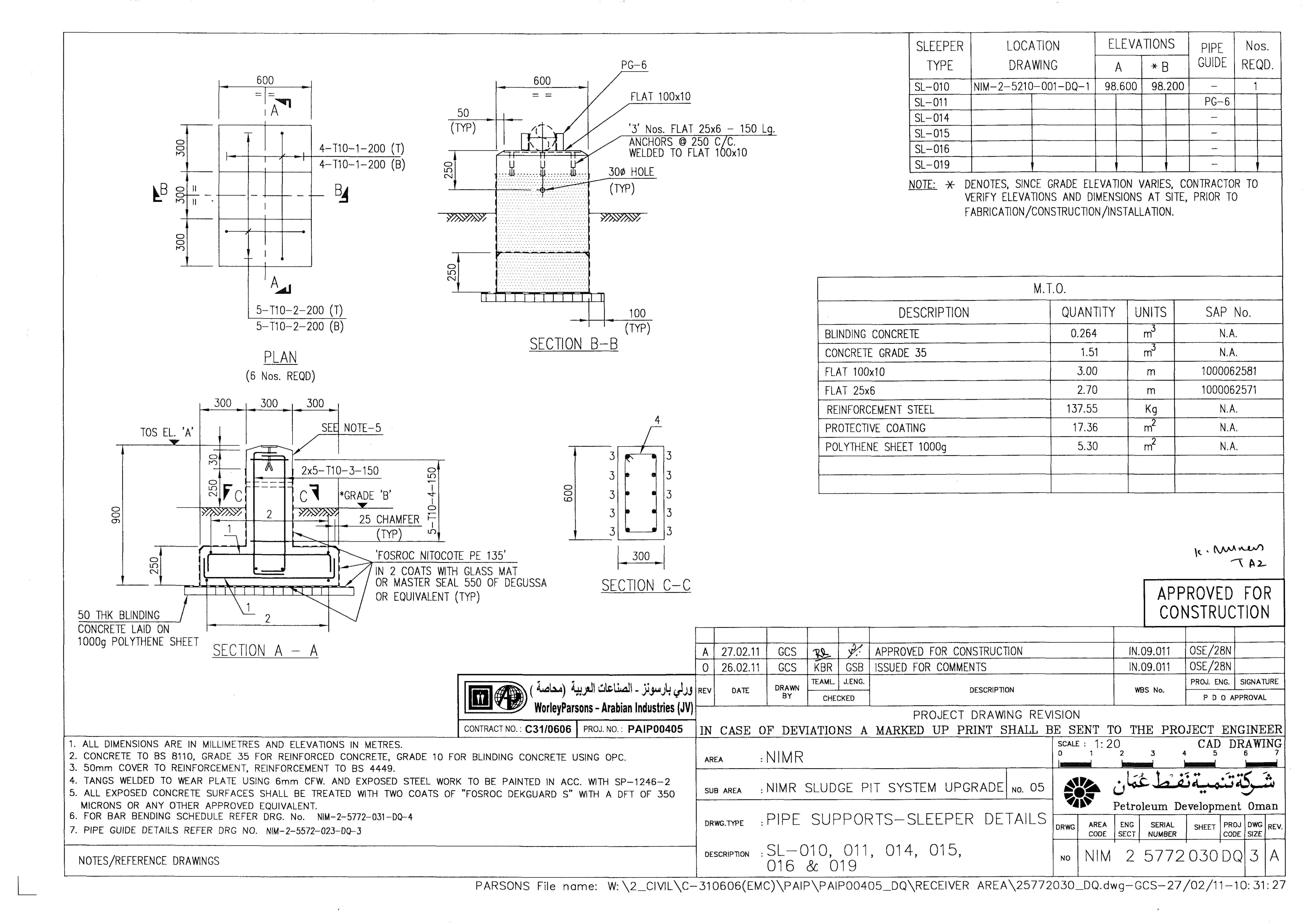
Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)			76.95					
Weight (Kgs)			47.71					
Total Weight (Kgs)								47.710

K. Muneer -TA2

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
SL-004&006	1	T10	2	8	16	1075	21	150	800	150		
	2	T10	2	10	20	875	21	150	600	150		
	3	T10	2	10	20	1225	21	200	700	350		
	4	T10	2	5	10	1775	51	200	600			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



SLEEPER TYPE	LOCATION DRAWING	ELEVATIONS A	ELEVATIONS *B	PIPE GUIDE	Nos. REQD.
SL-010	NIM-2-5210-001-DQ-1	98.600	98.200	–	1
SL-011				PG-6	
SL-014				–	
SL-015				–	
SL-016				–	
SL-019				–	

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	0.264	m^3	N.A.
CONCRETE GRADE 35	1.51	m^3	N.A.
FLAT 100x10	3.00	m	1000062581
FLAT 25x6	2.70	m	1000062571
REINFORCEMENT STEEL	137.55	Kg	N.A.
PROTECTIVE COATING	17.36	m^2	N.A.
POLYTHENE SHEET 1000g	5.30	m^2	N.A.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RR		APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. TANGS WELDED TO WEAR PLATE USING 6mm CFW. AND EXPOSED STEEL WORK TO BE PAINTED IN ACC. WITH SP-1246-2
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-5772-031-DQ-4
7. PIPE GUIDE DETAILS REFER DRG NO. NIM-2-5572-023-DQ-3

NOTES/REFERENCE DRAWINGS

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT SYSTEM UPGRADE NO. 05

DRWG.TYPE : PIPE SUPPORTS-SLEEPER DETAILS

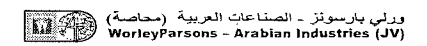
DESCRIPTION : SL-010, 011, 014, 015, 016 & 019

SCALE : 1:20 CAD DRAWING

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	030	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25772030_DQ.dwg-GCS-27/02/11-10:31:27



BAR BENDING SCHEDULE

JOB NO.:	**PAIP00405**	**Document No.:**	NIM-2-5772-031-DQ-4
PART ID.:	**NIMR SLUDGE PIT SYSTEM UPGRADE SLEEPER SUPPORTS**	**Revision No.:**	A
		Prepared by:	GCS
		Checked by:	PNG
REF. DWG NO.:	**NIM-2-5772-030-DQ-3**	Date:	27.02.11

Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)			221.85					
Weight (Kgs)			137.55					

Total Weight (Kgs) 137.550

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
SL-010&011,014,	1	T10	6	8	48	1075	21	150	800	150		
015,016 & 019	2	T10	6	10	60	775	21	150	500	150		
	3	T10	6	10	60	1275	21	200	750	350		
	4	T10	6	5	30	1575	51	200	500			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm

PIPE SUPPORT/ SLEEPER NUMBER	REFERENCE DRAWINGS STEELWORK DETAILS	SLEEPER/FOUNDATION DETAILS	LOCATION PLAN	REMARKS
PS-051	NIM-2-5772-033-DQ-3	NIM-2-5772-034-DQ-3	NIM-2-5166-001-DQ-1	–
PS-052	NIM-2-5772-036-DQ-3	NIM-2-5772-037-DQ-3		–
PS-053	NIM-2-5772-039-DQ-3	NIM-2-5772-040-DQ-3		–
PS-054	NIM-2-5772-039-DQ-3	NIM-2-5772-040-DQ-3		–
PS-055	NIM-2-5772-042-DQ-3	NIM-2-5772-037-DQ-3		–
PS-056				SPARE
PS-057	NIM-2-5772-039-DQ-3	NIM-2-5772-040-DQ-3	NIM-2-5166-001-DQ-1	–
PS-058				–
PS-059				–
PS-060				–
PS-061				–
PS-062				–
PS-063				SPARE
PS-064	NIM-2-5772-045-DQ-3	NIM-2-5772-043-DQ-3	NIM-2-5166-001-DQ-1	–
PS-065	NIM-2-5772-046-DQ-3	NIM-2-5772-043-DQ-3		–
PS-066	NIM-2-5775-006-DQ-1	–		–
PS-067	NIM-2-5772-047-DQ-3		NIM-3-5085-001-DQ-1	–
PS-068	NIM-2-5775-006-DQ-1	–	NIM-2-5166-001-DQ-1	–
PS-069	NIM-2-5775-006-DQ-1	–		–
PS-070	NIM-2-5772-039-DQ-3	NIM-2-5772-040-DQ-3		–
PS-071	NIM-2-5772-046-DQ-3	NIM-2-5772-043-DQ-3		–
PS-072	NIM-2-5772-045-DQ-3	NIM-2-5772-043-DQ-3		–
PS-073	NIM-2-5772-045-DQ-3	NIM-2-5772-043-DQ-3		
PS-074				SPARE
PS-075				SPARE
PS-076	NIM-2-5772-048-DQ-3	NIM-2-5772-049-DQ-3	NIM-2-5166-001-DQ-1	–
PS-077				–
PS-078				–
PS-079				–
PS-080				–
PS-081				–

PIPE SUPPORT/ SLEEPER NUMBER	REFERENCE DRAWINGS STEELWORK DETAILS	SLEEPER/FOUNDATION DETAILS	LOCATION PLAN	REMARKS
PS-082	NIM-2-5772-048-DQ-3	NIM-2-5772-049-DQ-3	NIM-2-5166-001-DQ-1	–
PS-083				–
PS-084				–
PS-085				–
PS-086	NIM-2-5772-052-DQ-3		NIM-2-5167-001-DQ-1	–
PS-087	NIM-2-5772-051-DQ-3	NIM-2-5772-049-DQ-3	NIM-2-5167-001-DQ-1	–
U BOLT DET.	NIM-2-5772-055-DQ-3	–	–	
–	–	–	–	
–	–	–	–	
SL-001	–	NIM-2-5774-005-DQ-3	NIM-2-5166-001-DQ-1	–
SL-002	–	NIM-2-5772-053-DQ-3		–
SL-003	–			–
SL-004	–			–
SL-005	–		NIM-2-5167-001-DQ-1	–
SL-006	–			–
SL-007	–			–
SL-008	–			–
SL-009	–		NIM-2-5166-001-DQ-1	–
SL-010	–		NIM-2-5166-001-DQ-1	–

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: **C31/0606** PROJ. NO.: **PAIP00405**

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE : NTS CAD DRAWING

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : PIPE SUPPORTS (RECEIVER)

DESCRIPTION : INDEX SHEETS

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	032	DQ	3	A

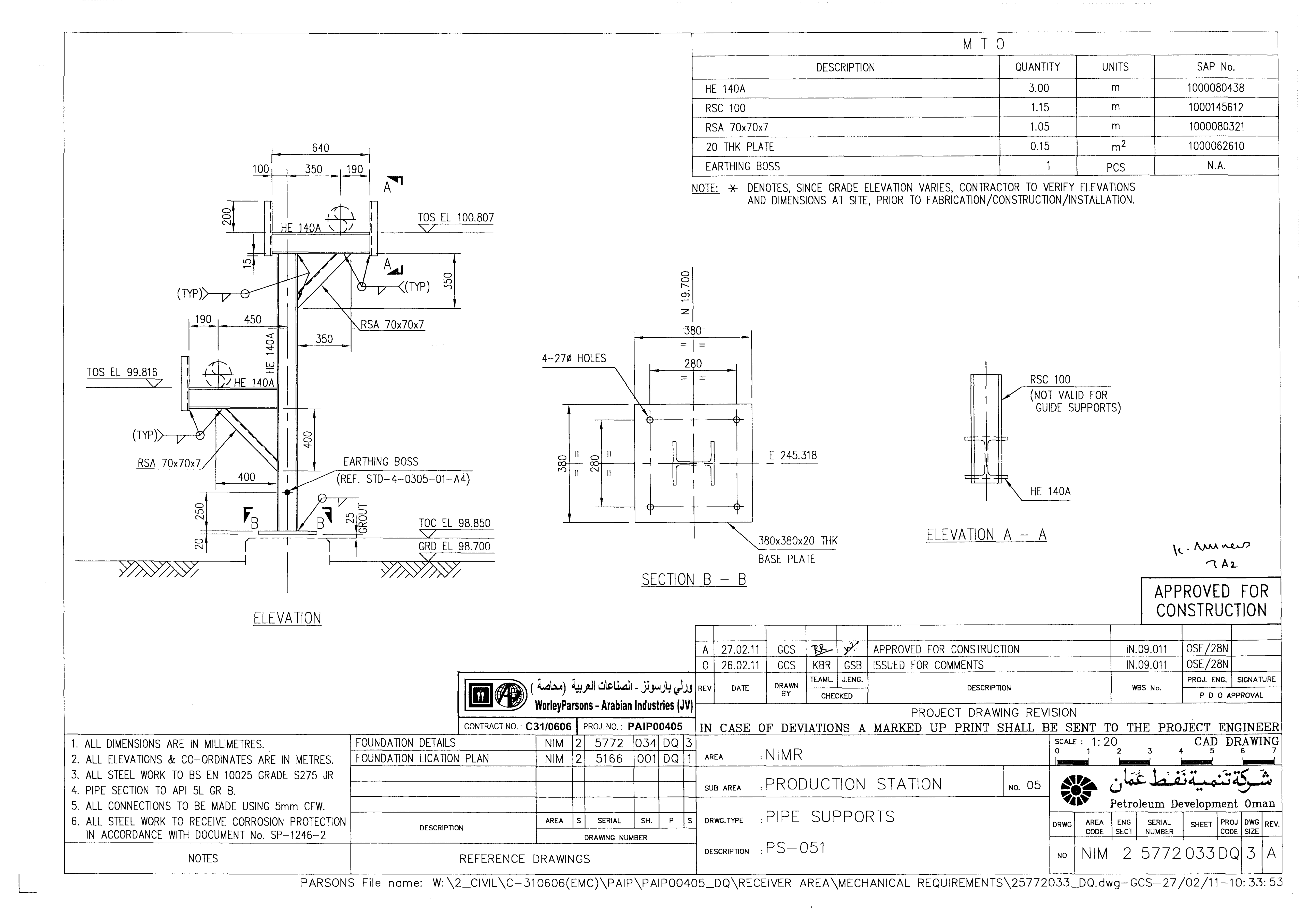
1. CONTRACTOR SHALL REFER PIPING PLAN ,PRIOR TO FABRICATION, INSTALLATION OF PIPE SUPPORTS

NOTES

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
			DRAWING NUMBER			

REFERENCE DRAWINGS

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\MECHANICAL REQUIREMENTS\25772032_DQ.dwg-GCS-27/02/11-10:33:52



M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 140A	3.00	m	1000080438
RSC 100	1.15	m	1000145612
RSA 70x70x7	1.05	m	1000080321
20 THK PLATE	0.15	m^2	1000062610
EARTHING BOSS	1	PCS	N.A.

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	P D O APPROVAL PROJ. ENG.	P D O APPROVAL SIGNATURE
A	27.02.11	GCS	RR	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)

WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
FOUNDATION DETAILS	NIM	2	5772	034	DQ	3
FOUNDATION LICATION PLAN	NIM	2	5166	001	DQ	1

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : PIPE SUPPORTS

DESCRIPTION : PS-051

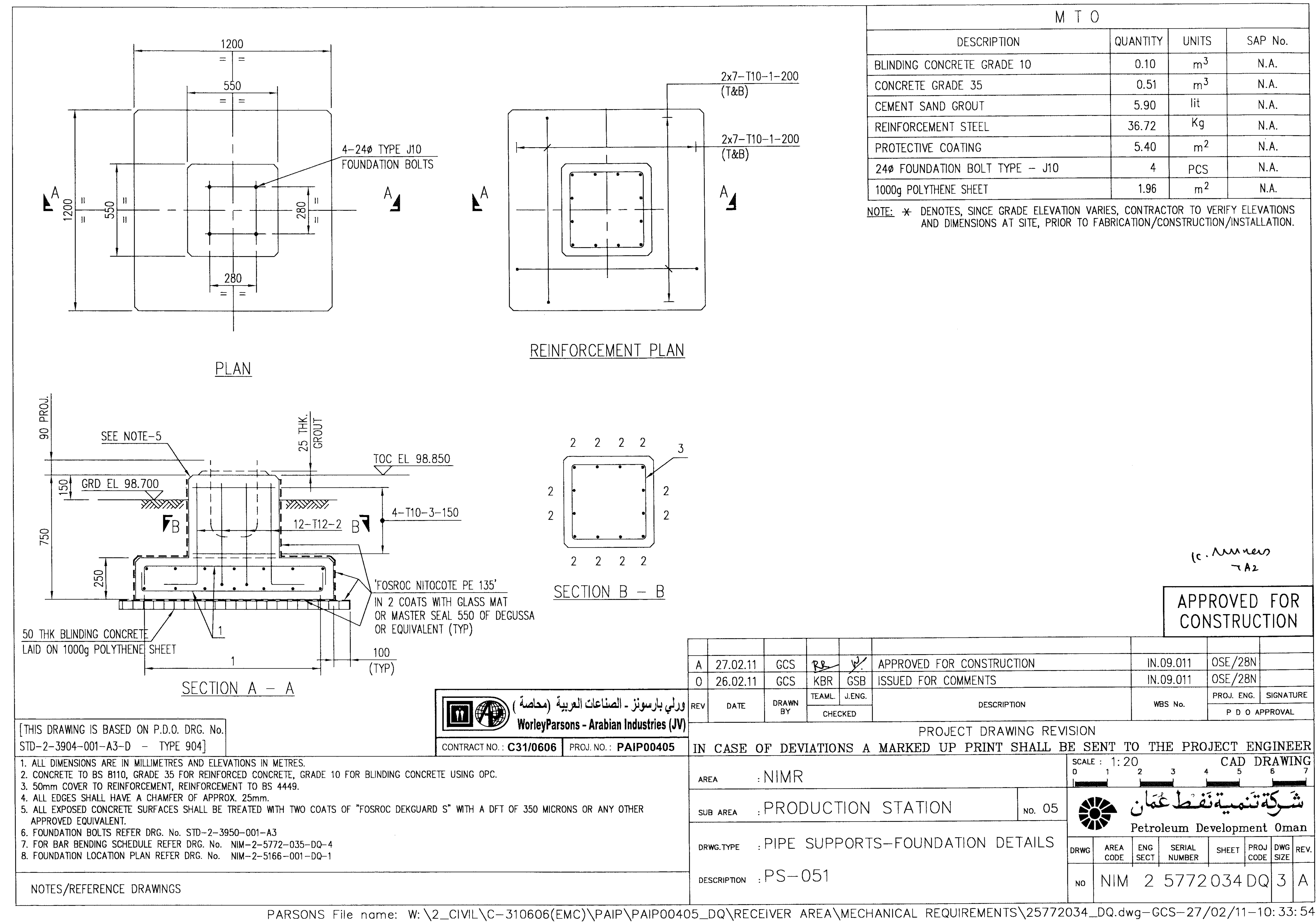
SCALE : 1:20 CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	5772	033	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\MECHANICAL REQUIREMENTS\25772033_DQ.dwg-GCS-27/02/11-10:33:53



M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE GRADE 10	0.10	m^3	N.A.
CONCRETE GRADE 35	0.51	m^3	N.A.
CEMENT SAND GROUT	5.90	lit	N.A.
REINFORCEMENT STEEL	36.72	Kg	N.A.
PROTECTIVE COATING	5.40	m^2	N.A.
24ø FOUNDATION BOLT TYPE – J10	4	PCS	N.A.
1000g POLYTHENE SHEET	1.96	m^2	N.A.

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

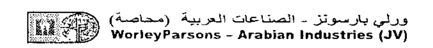
REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3904-001-A3-D – TYPE 904]

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. ALL EDGES SHALL HAVE A CHAMFER OF APPROX. 25mm.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOUNDATION BOLTS REFER DRG. No. STD-2-3950-001-A3
7. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-5772-035-DQ-4
8. FOUNDATION LOCATION PLAN REFER DRG. No. NIM-2-5166-001-DQ-1

NOTES/REFERENCE DRAWINGS

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\MECHANICAL REQUIREMENTS\25772034_DQ.dwg-GCS-27/02/11-10:33:54



BAR BENDING SCHEDULE

JOB NO.: **PAIP00238**
PART ID.: **PRODUCTION STATION**

REF. DWG NO.: **NIM-2-5772-034-DQ-3**

Document No.: NIM-2-5772-035-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG RB
Date: 27.02.11

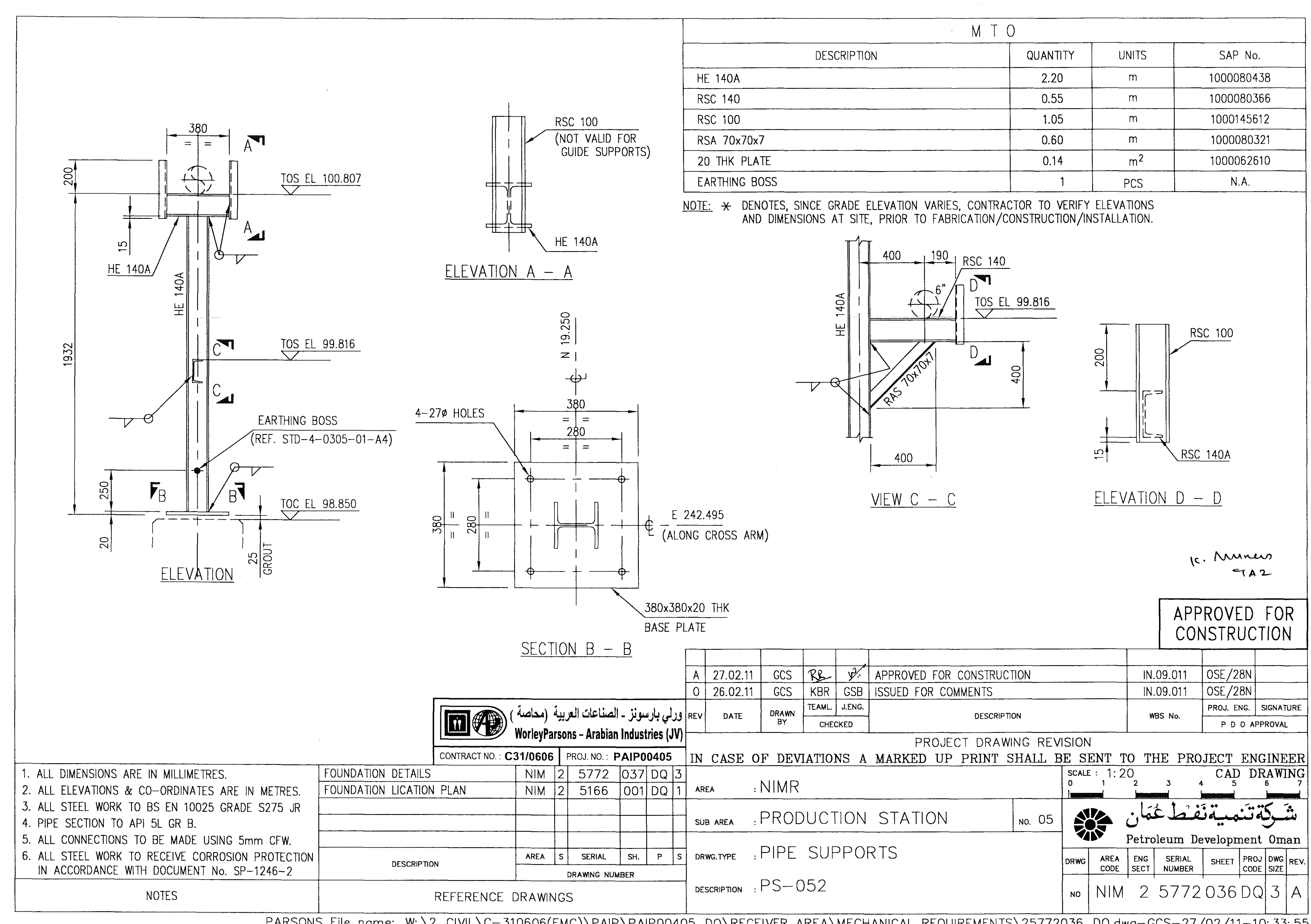
K. Anunes
-TA2

Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)			45.00	9.90				
Weight (Kgs)			27.90	8.82				
Total Weight (Kgs)								36.720

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PS-051	1	T10	1	28	28	1325	21	125	1100	125		
	2	T12	1	12	12	825	11	200	630			
	3	T10	1	4	4	1975	51	450	450			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 140A	2.20	m	1000080438
RSC 140	0.55	m	1000080366
RSC 100	1.05	m	1000145612
RSA 70x70x7	0.60	m	1000080321
20 THK PLATE	0.14	m^2	1000062610
EARTHING BOSS	1	PCS	N.A.

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
FOUNDATION DETAILS	NIM	2	5772	037	DQ	3
FOUNDATION LICATION PLAN	NIM	2	5166	001	DQ	1

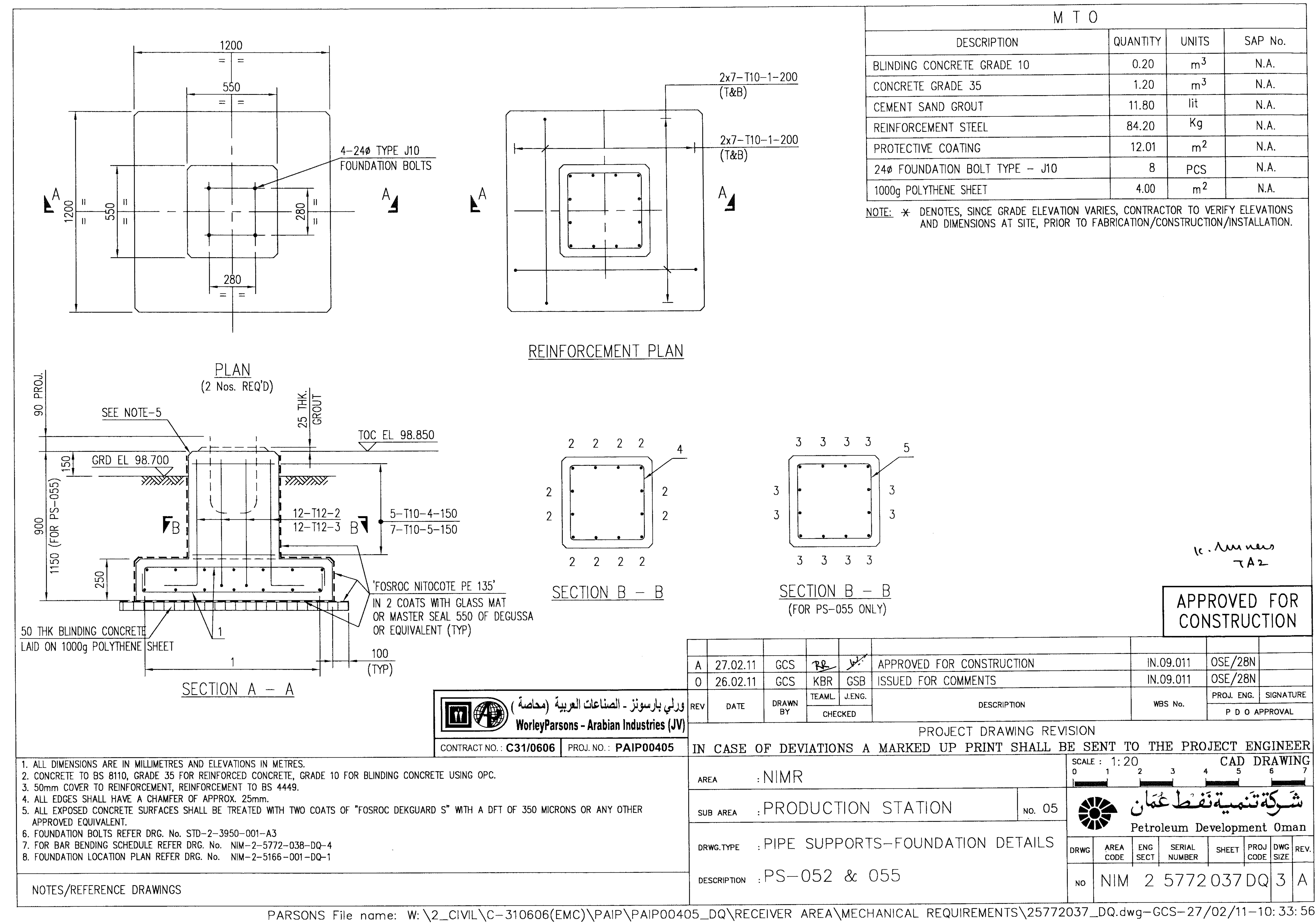
AREA : NIMR
SUB AREA : PRODUCTION STATION — NO. 05
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS-052

SCALE : 1:20 — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	036	DQ	3	A

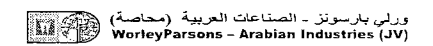
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\MECHANICAL REQUIREMENTS\25772036_DQ.dwg-GCS-27/02/11-10:33:55



MTO

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE GRADE 10	0.20	m^3	N.A.
CONCRETE GRADE 35	1.20	m^3	N.A.
CEMENT SAND GROUT	11.80	lit	N.A.
REINFORCEMENT STEEL	84.20	Kg	N.A.
PROTECTIVE COATING	12.01	m^2	N.A.
24ø FOUNDATION BOLT TYPE – J10	8	PCS	N.A.
1000g POLYTHENE SHEET	4.00	m^2	N.A.

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. ALL EDGES SHALL HAVE A CHAMFER OF APPROX. 25mm.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOUNDATION BOLTS REFER DRG. No. STD-2-3950-001-A3
7. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-5772-038-DQ-4
8. FOUNDATION LOCATION PLAN REFER DRG. No. NIM-2-5166-001-DQ-1



BAR BENDING SCHEDULE

JOB NO.: PAIP00238
PART ID.: PRODUCTION STATION

REF. DWG NO.: NIM-2-5772-037-DQ-3

Document No.: NIM-2-5772-038-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG RB
Date: 27.02.11

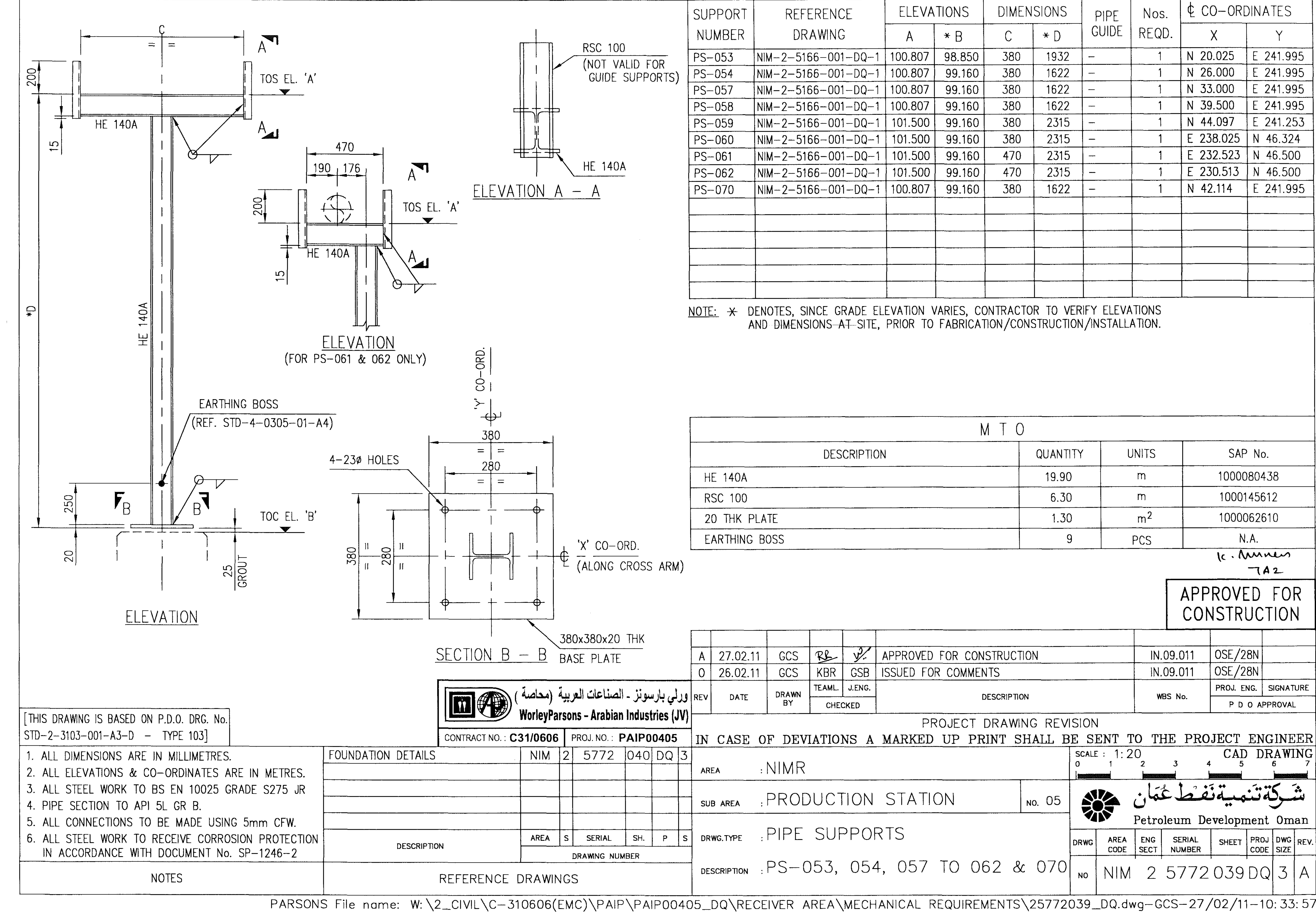
K. Amnes
TA2

Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)			97.90	26.40				
Weight (Kgs)			60.70	23.50				
Total Weight (Kgs)								84.200

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PS-052 & 055	1	T10	2	28	56	1325	21	125	1100	125		
	2	T12	1	12	12	975	11	200	780			
	3	T12	1	12	12	1225	11	200	1030			
	4	T10	1	5	5	1975	51	450	450			
	5	T10	1	7	7	1975	51	450	450			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS *B	DIMENSIONS C	DIMENSIONS *D	PIPE GUIDE	Nos. REQD.	℄ CO-ORDINATES X	℄ CO-ORDINATES Y
PS-053	NIM-2-5166-001-DQ-1	100.807	98.850	380	1932	–	1	N 20.025	E 241.995
PS-054	NIM-2-5166-001-DQ-1	100.807	99.160	380	1622	–	1	N 26.000	E 241.995
PS-057	NIM-2-5166-001-DQ-1	100.807	99.160	380	1622	–	1	N 33.000	E 241.995
PS-058	NIM-2-5166-001-DQ-1	100.807	99.160	380	1622	–	1	N 39.500	E 241.995
PS-059	NIM-2-5166-001-DQ-1	101.500	99.160	380	2315	–	1	N 44.097	E 241.253
PS-060	NIM-2-5166-001-DQ-1	101.500	99.160	380	2315	–	1	E 238.025	N 46.324
PS-061	NIM-2-5166-001-DQ-1	101.500	99.160	470	2315	–	1	E 232.523	N 46.500
PS-062	NIM-2-5166-001-DQ-1	101.500	99.160	470	2315	–	1	E 230.513	N 46.500
PS-070	NIM-2-5166-001-DQ-1	100.807	99.160	380	1622	–	1	N 42.114	E 241.995

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS ~~AT~~ SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 140A	19.90	m	1000080438
RSC 100	6.30	m	1000145612
20 THK PLATE	1.30	m^2	1000062610
EARTHING BOSS	9	PCS	N.A.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	P D O APPROVAL PROJ. ENG.	P D O APPROVAL SIGNATURE
A	27.02.11	GCS	RB		APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3103-001-A3-D – TYPE 103]

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
FOUNDATION DETAILS	NIM	2	5772	040	DQ	3

(AREA, S, SERIAL, SH., P, S = DRAWING NUMBER)

AREA : NIMR

SUB AREA : PRODUCTION STATION — NO. 05

DRWG.TYPE : PIPE SUPPORTS

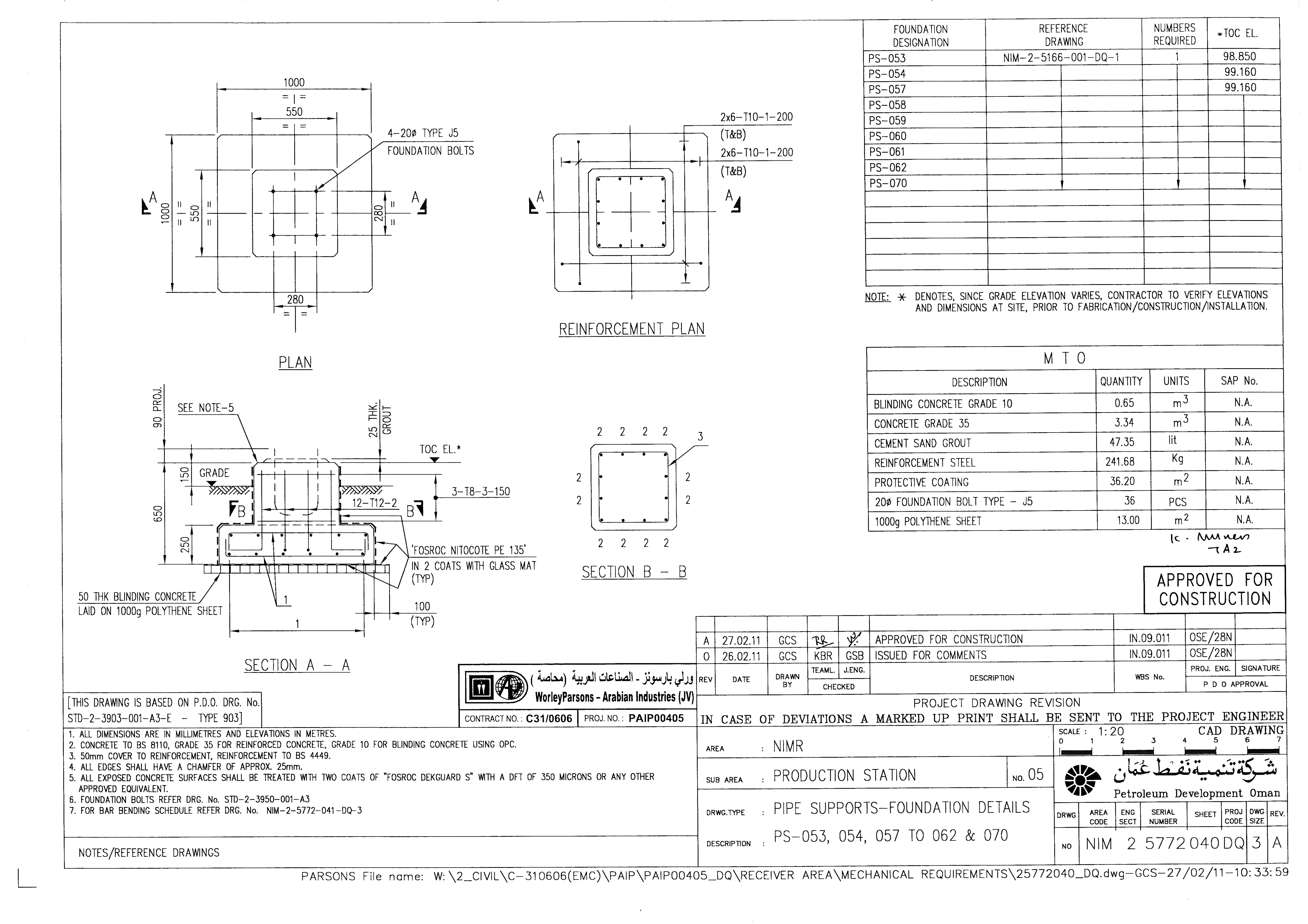
DESCRIPTION : PS–053, 054, 057 TO 062 & 070

SCALE : 1:20 — CAD DRAWING

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Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	5772	039	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\MECHANICAL REQUIREMENTS\25772039_DQ.dwg-GCS-27/02/11-10:33:57


FOUNDATION DESIGNATION
REFERENCE DRAWING
NUMBERS REQUIRED
*TOC EL.
PS-053
NIM-2-5166-001-DQ-1
1
98.850
PS-054
99.160
PS-057
99.160
PS-058
PS-059
PS-060
PS-061
PS-062
PS-070
NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.
1000
550
4-20ø TYPE J5
FOUNDATION BOLTS
280
A
PLAN
2x6-T10-1-200
(T&B)
2x6-T10-1-200
(T&B)
REINFORCEMENT PLAN
M T O
DESCRIPTION
QUANTITY
UNITS
SAP No.
BLINDING CONCRETE GRADE 10
0.65
m3
N.A.
CONCRETE GRADE 35
3.34
m3
N.A.
CEMENT SAND GROUT
47.35
lit
N.A.
REINFORCEMENT STEEL
241.68
Kg
N.A.
PROTECTIVE COATING
36.20
m2
N.A.
20ø FOUNDATION BOLT TYPE - J5
36
PCS
N.A.
1000g POLYTHENE SHEET
13.00
m2
N.A.
90 PROJ.
SEE NOTE-5
25 THK. GROUT
TOC EL.*
150
GRADE
3-T8-3-150
650
12-T12-2
B
250
'FOSROC NITOCOTE PE 135'
IN 2 COATS WITH GLASS MAT
(TYP)
50 THK BLINDING CONCRETE
LAID ON 1000g POLYTHENE SHEET
1
100
(TYP)
SECTION A - A
2 2 2 2
3
SECTION B - B
APPROVED FOR CONSTRUCTION
A
27.02.11
GCS
APPROVED FOR CONSTRUCTION
IN.09.011
OSE/28N
0
26.02.11
GCS
KBR
GSB
ISSUED FOR COMMENTS
IN.09.011
OSE/28N
REV
DATE
DRAWN BY
TEAML.
J.ENG.
CHECKED
DESCRIPTION
WBS No.
PROJ. ENG.
SIGNATURE
P D O APPROVAL
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3903-001-A3-E - TYPE 903]
1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. ALL EDGES SHALL HAVE A CHAMFER OF APPROX. 25mm.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOUNDATION BOLTS REFER DRG. No. STD-2-3950-001-A3
7. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-5772-041-DQ-3
NOTES/REFERENCE DRAWINGS
SCALE: 1:20
CAD DRAWING
AREA : NIMR
SUB AREA : PRODUCTION STATION
NO. 05
DRWG.TYPE : PIPE SUPPORTS-FOUNDATION DETAILS
DESCRIPTION : PS-053, 054, 057 TO 062 & 070
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NIM 2 5772 040 DQ 3 A
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\MECHANICAL REQUIREMENTS\25772040_DQ.dwg-GCS-27/02/11-10:33:59



BAR BENDING SCHEDULE

JOB NO.: PAIP00238
PART ID.: PRODUCTION STATION

REF. DWG NO.: NIM-2-5772-040-DQ-3

Document No.: NIM-2-5772-041-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG
Date: 27.02.11

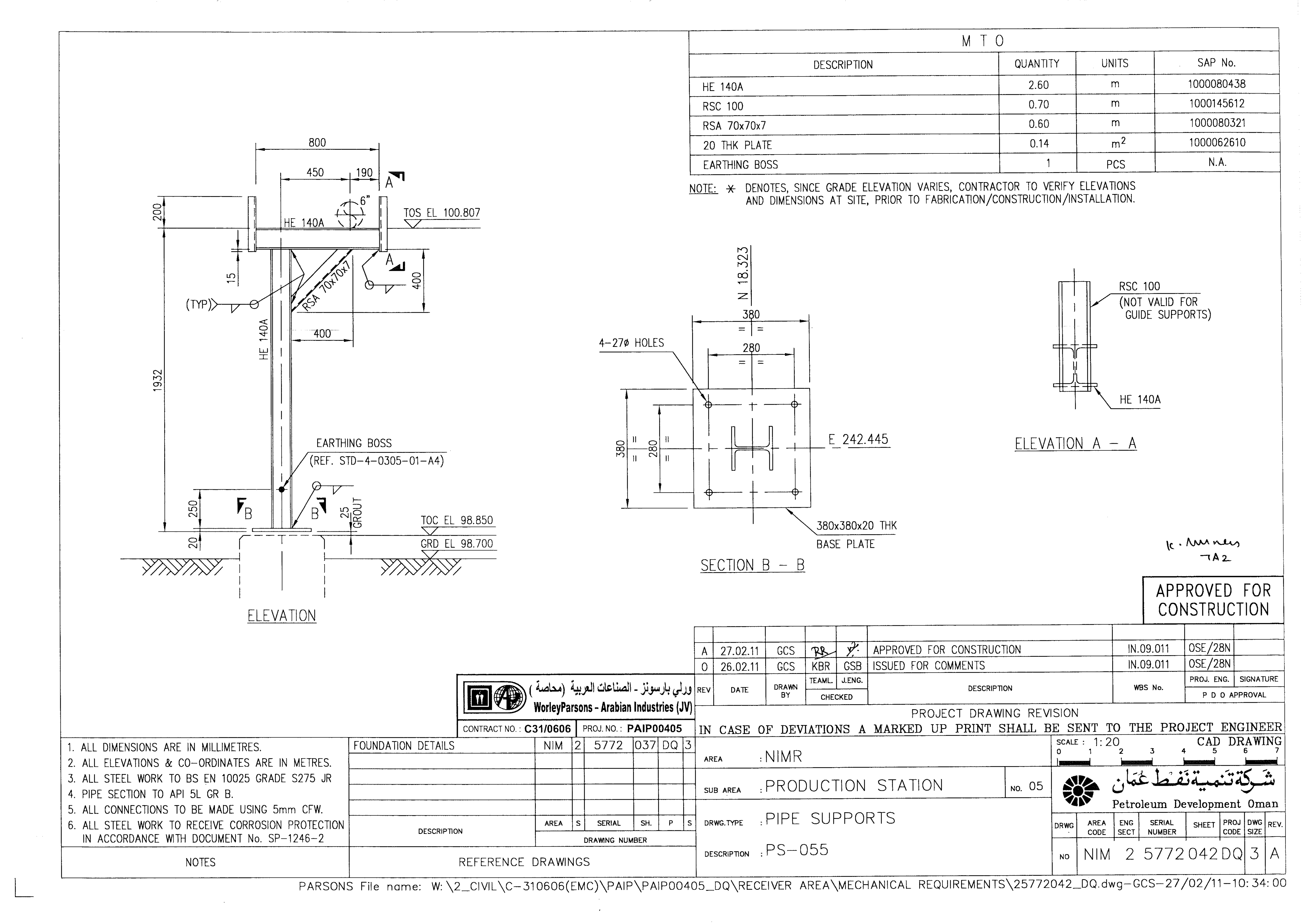
K. Mannes TA2

Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		53.33	243.00	78.30				
Weight (Kgs)		21.33	150.66	69.69				
Total Weight (Kgs)								241.680

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PS-053, 054,	1	T10	9	24	216	1125	21	125	900	125		
057 TO 062 & 070	2	T12	9	12	108	725	11	200	530			
	3	T8	9	3	27	1975	51	450	450			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



M T O			
DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 140A	2.60	m	1000080438
RSC 100	0.70	m	1000145612
RSA 70x70x7	0.60	m	1000080321
20 THK PLATE	0.14	m^2	1000062610
EARTHING BOSS	1	PCS	N.A.

NOTE: ✳ DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

NOTES

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
FOUNDATION DETAILS	NIM	2	5772	037	DQ	3

DRAWING NUMBER

REFERENCE DRAWINGS

SCALE: 1:20 — CAD DRAWING

AREA: NIMR

SUB AREA: PRODUCTION STATION NO. 05

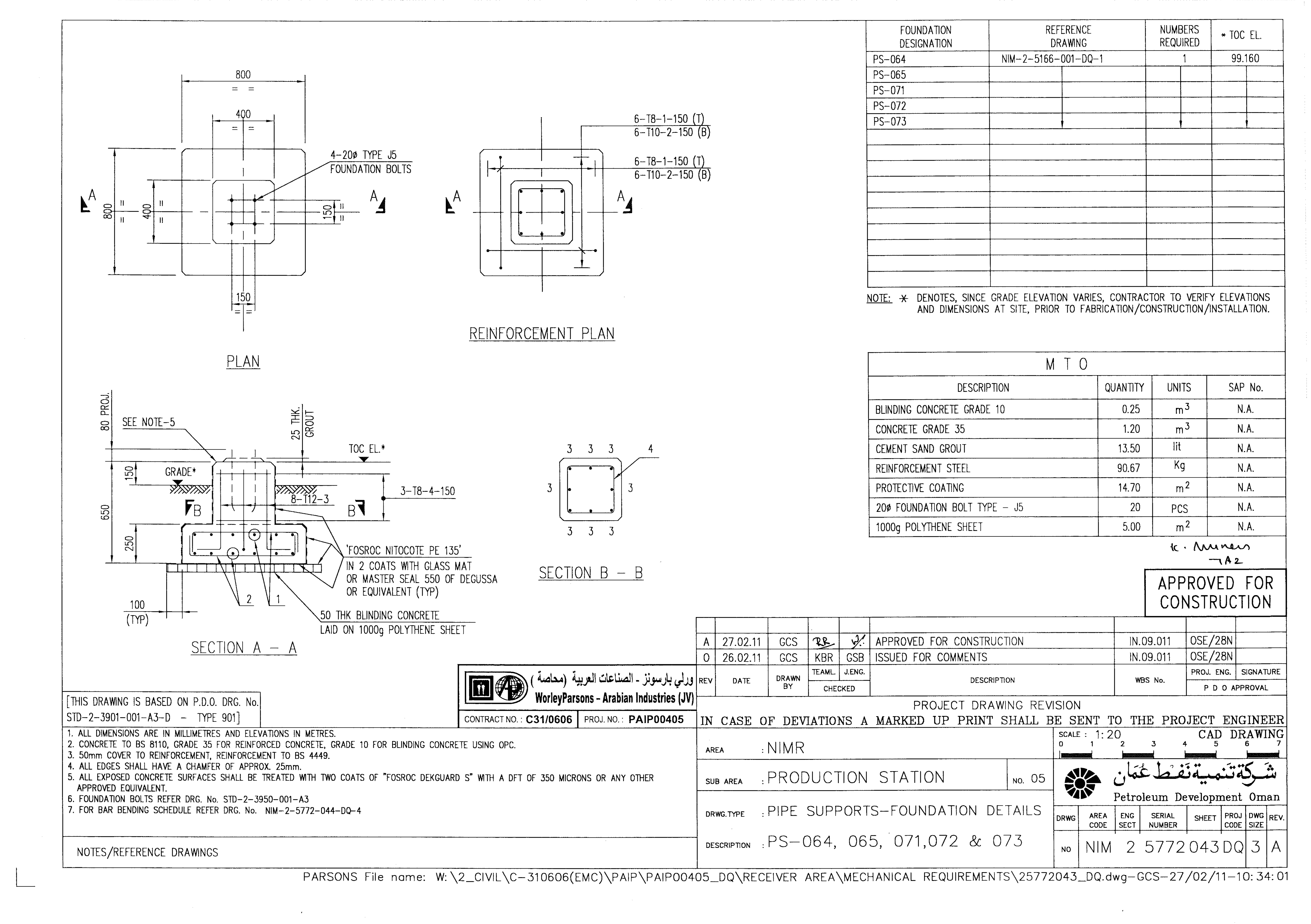
DRWG.TYPE: PIPE SUPPORTS

DESCRIPTION: PS–055

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	2	5772	042	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\MECHANICAL REQUIREMENTS\25772042_DQ.dwg-GCS-27/02/11-10:34:00



FOUNDATION DESIGNATION	REFERENCE DRAWING	NUMBERS REQUIRED	* TOC EL.
PS-064	NIM-2-5166-001-DQ-1	1	99.160
PS-065	↓	↓	↓
PS-071			
PS-072			
PS-073			

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE GRADE 10	0.25	m^3	N.A.
CONCRETE GRADE 35	1.20	m^3	N.A.
CEMENT SAND GROUT	13.50	lit	N.A.
REINFORCEMENT STEEL	90.67	Kg	N.A.
PROTECTIVE COATING	14.70	m^2	N.A.
20ø FOUNDATION BOLT TYPE – J5	20	PCS	N.A.
1000g POLYTHENE SHEET	5.00	m^2	N.A.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RR		APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3901-001-A3-D – TYPE 901]

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. ALL EDGES SHALL HAVE A CHAMFER OF APPROX. 25mm.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOUNDATION BOLTS REFER DRG. No. STD-2-3950-001-A3
7. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-5772-044-DQ-4

NOTES/REFERENCE DRAWINGS

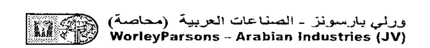
AREA : NIMR
SUB AREA : PRODUCTION STATION — NO. 05
DRWG.TYPE : PIPE SUPPORTS–FOUNDATION DETAILS
DESCRIPTION : PS–064, 065, 071,072 & 073

SCALE : 1:20 — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	043	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\MECHANICAL REQUIREMENTS\25772043_DQ.dwg–GCS–27/02/11–10:34:01



BAR BENDING SCHEDULE

JOB NO.: PAIP00238
PART ID.: PRODUCTION STATION

REF. DWG NO.: NIM-2-5772-043-DQ-3

Document No.: NIM-2-5772-044-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG RR
Date: 27.02.11

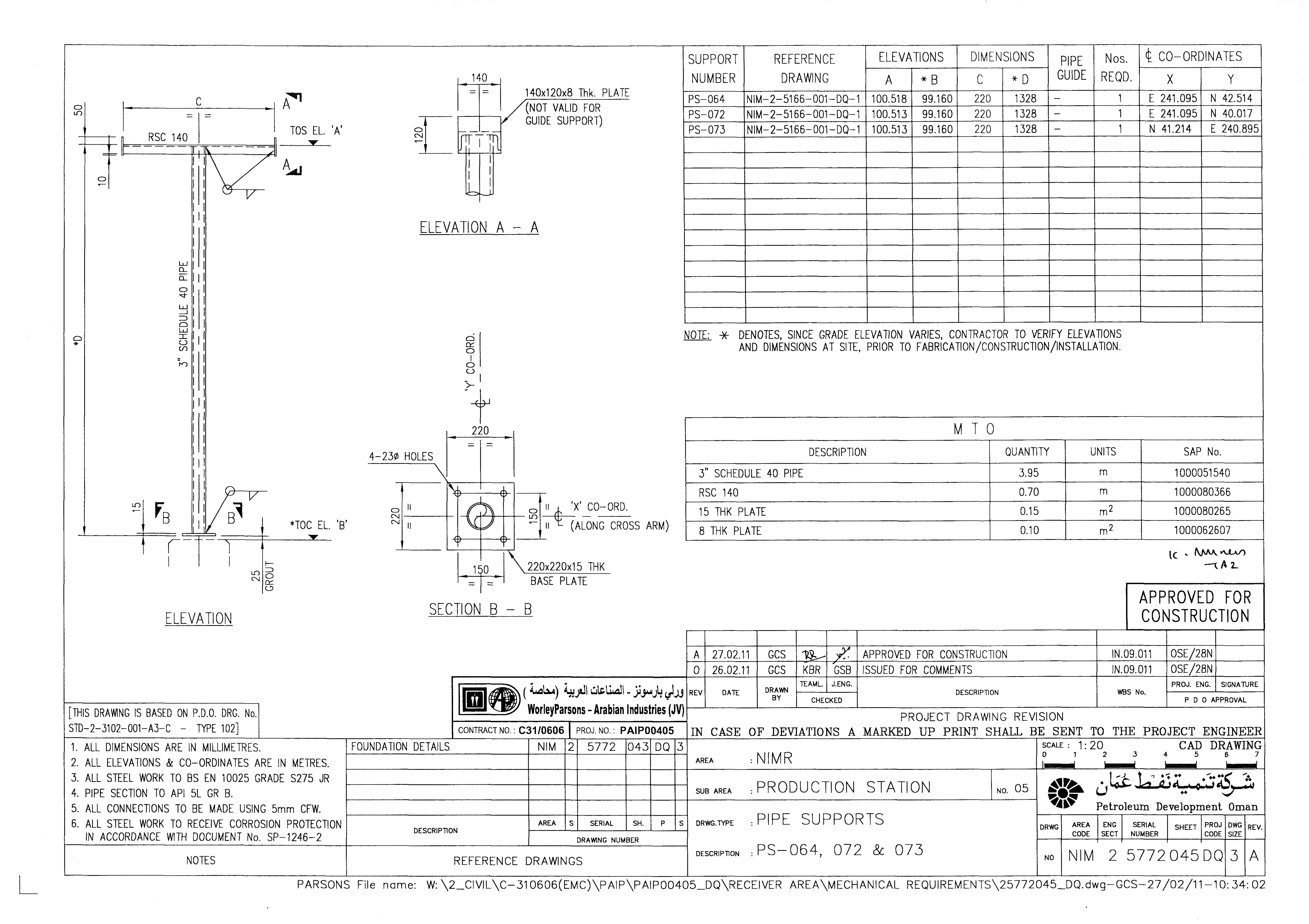
K. Muness TA2

Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		76.13	55.50	29.00				
Weight (Kgs)		30.45	34.41	25.81				
Total Weight (Kgs)								90.670

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PS-064, 065, 071,	1	T8	5	12	60	925	21	125	700	125		
072 & 073	2	T10	5	12	60	925	21	125	700	125		
	3	T12	5	8	40	725	11	200	530			
	4	T8	5	3	15	1375	51	300	300			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS *B	DIMENSIONS C	DIMENSIONS *D	PIPE GUIDE	Nos. REQD.	℄ CO-ORDINATES X	℄ CO-ORDINATES Y
PS-064	NIM-2-5166-001-DQ-1	100.518	99.160	220	1328	-	1	E 241.095	N 42.514
PS-072	NIM-2-5166-001-DQ-1	100.513	99.160	220	1328	-	1	E 241.095	N 40.017
PS-073	NIM-2-5166-001-DQ-1	100.513	99.160	220	1328	-	1	N 41.214	E 240.895

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	3.95	m	1000051540
RSC 140	0.70	m	1000080366
15 THK PLATE	0.15	m^2	1000080265
8 THK PLATE	0.10	m^2	1000062607

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	P D O APPROVAL PROJ. ENG.	P D O APPROVAL SIGNATURE
A	27.02.11	GCS	RR		APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3102-001-A3-C - TYPE 102]

NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
FOUNDATION DETAILS	NIM	2	5772	043	DQ	3

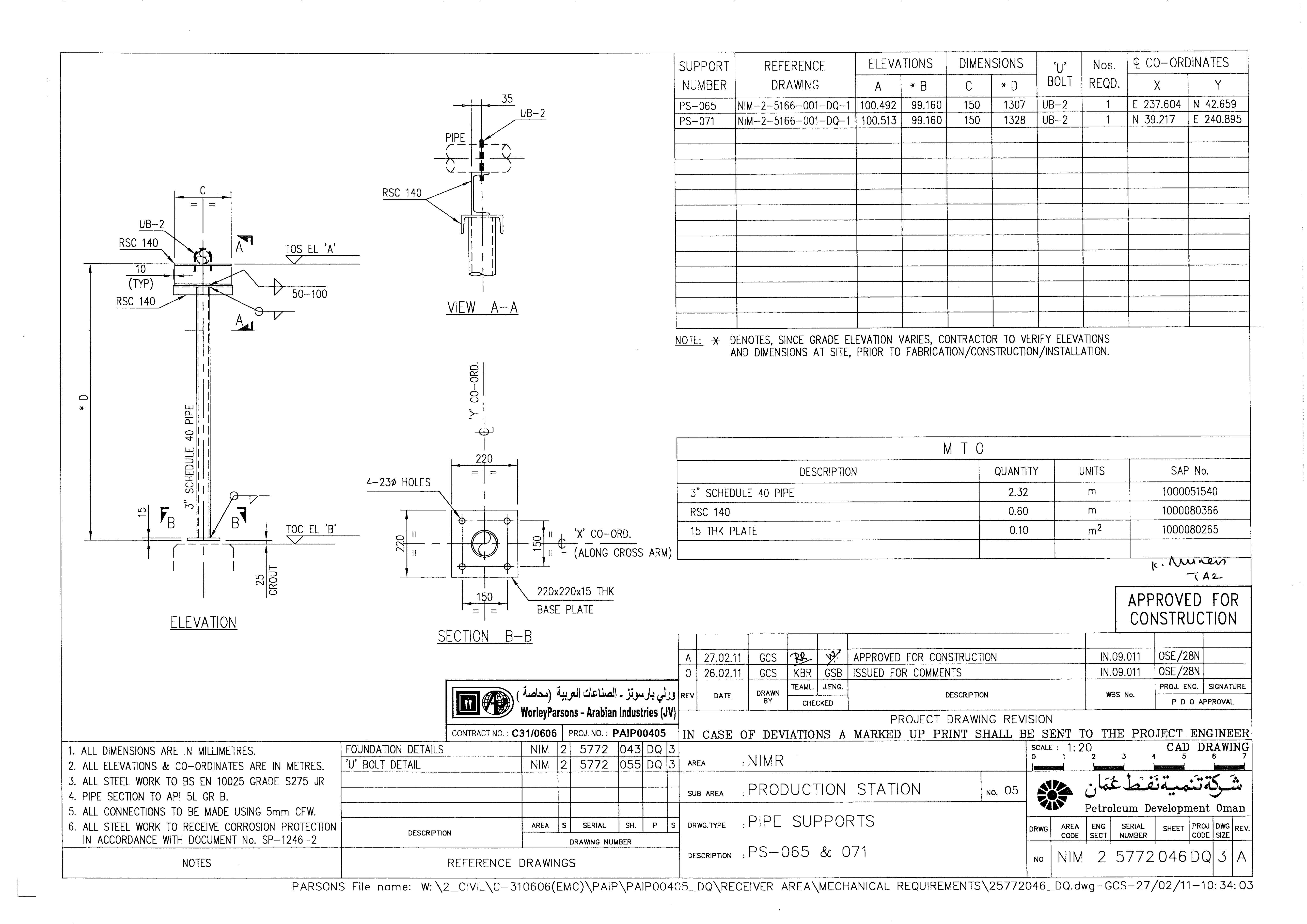
AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS-064, 072 & 073

SCALE : 1:20 CAD DRAWING

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	045	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\MECHANICAL REQUIREMENTS\25772045_DQ.dwg-GCS-27/02/11-10:34:02



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS * B	DIMENSIONS C	DIMENSIONS * D	'U' BOLT	Nos. REQD.	¢ CO-ORDINATES X	¢ CO-ORDINATES Y
PS-065	NIM-2-5166-001-DQ-1	100.492	99.160	150	1307	UB-2	1	E 237.604	N 42.659
PS-071	NIM-2-5166-001-DQ-1	100.513	99.160	150	1328	UB-2	1	N 39.217	E 240.895

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	2.32	m	1000051540
RSC 140	0.60	m	1000080366
15 THK PLATE	0.10	m^2	1000080265

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RR	VK	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
FOUNDATION DETAILS	NIM	2	5772	043	DQ	3
'U' BOLT DETAIL	NIM	2	5772	055	DQ	3

AREA : NIMR

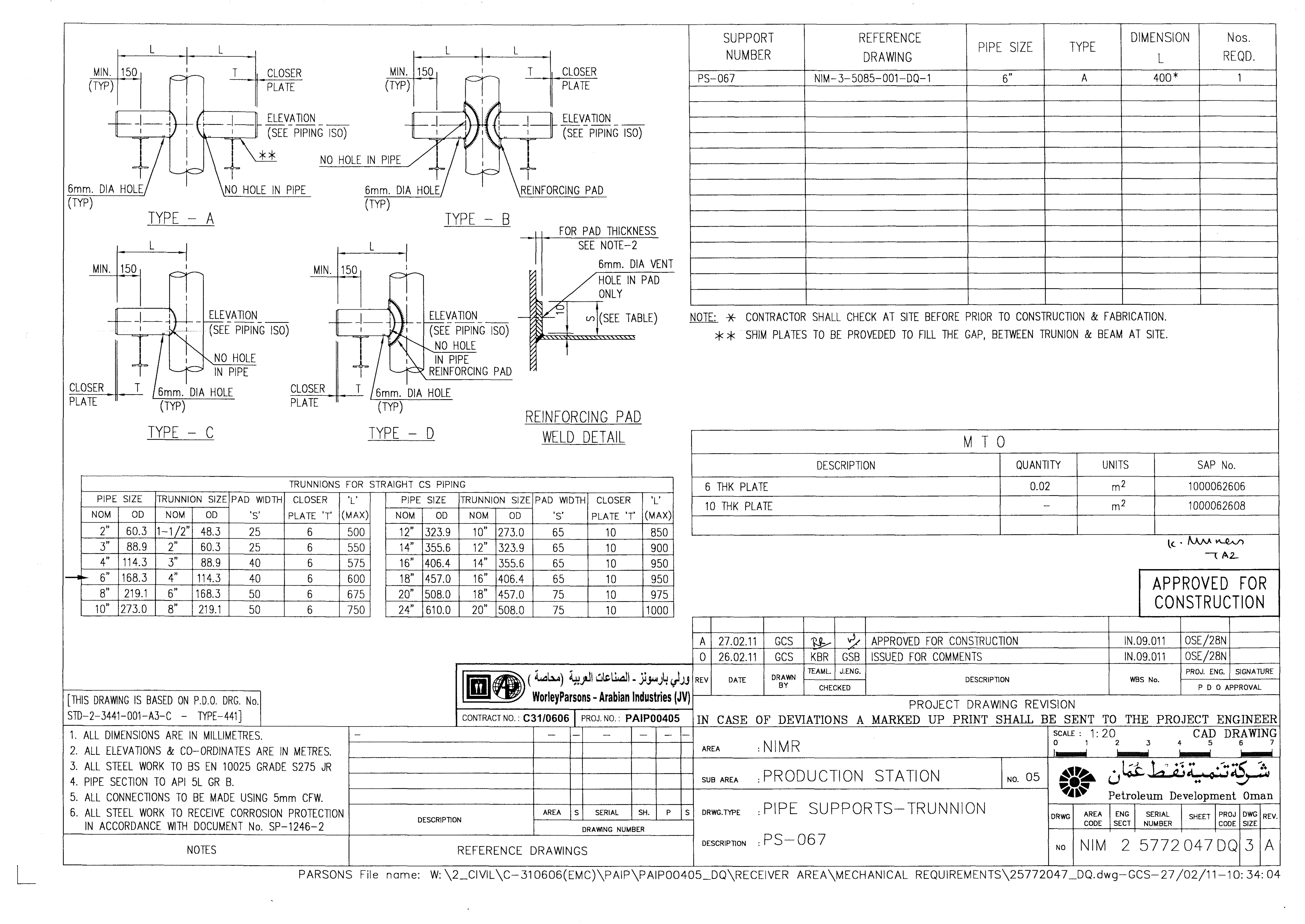
SUB AREA : PRODUCTION STATION — NO. 05

DRWG.TYPE : PIPE SUPPORTS

DESCRIPTION : PS-065 & 071

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	046	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\MECHANICAL REQUIREMENTS\25772046_DQ.dwg-GCS-27/02/11-10:34:03



SUPPORT NUMBER	REFERENCE DRAWING	PIPE SIZE	TYPE	DIMENSION L	Nos. REQD.
PS-067	NIM-3-5085-001-DQ-1	6"	A	400*	1

NOTE: * CONTRACTOR SHALL CHECK AT SITE BEFORE PRIOR TO CONSTRUCTION & FABRICATION.
** SHIM PLATES TO BE PROVEDED TO FILL THE GAP, BETWEEN TRUNION & BEAM AT SITE.

TRUNNIONS FOR STRAIGHT CS PIPING

PIPE SIZE NOM	PIPE SIZE OD	TRUNNION SIZE NOM	TRUNNION SIZE OD	PAD WIDTH 'S'	CLOSER PLATE 'T'	'L' (MAX)
2"	60.3	1-1/2"	48.3	25	6	500
3"	88.9	2"	60.3	25	6	550
4"	114.3	3"	88.9	40	6	575
→ 6"	168.3	4"	114.3	40	6	600
8"	219.1	6"	168.3	50	6	675
10"	273.0	8"	219.1	50	6	750
12"	323.9	10"	273.0	65	10	850
14"	355.6	12"	323.9	65	10	900
16"	406.4	14"	355.6	65	10	950
18"	457.0	16"	406.4	65	10	950
20"	508.0	18"	457.0	75	10	975
24"	610.0	20"	508.0	75	10	1000

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
6 THK PLATE	0.02	m^2	1000062606
10 THK PLATE	–	m^2	1000062608

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	P D O APPROVAL PROJ. ENG.	P D O APPROVAL SIGNATURE
A	27.02.11	GCS	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3441-001-A3-C – TYPE-441]

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

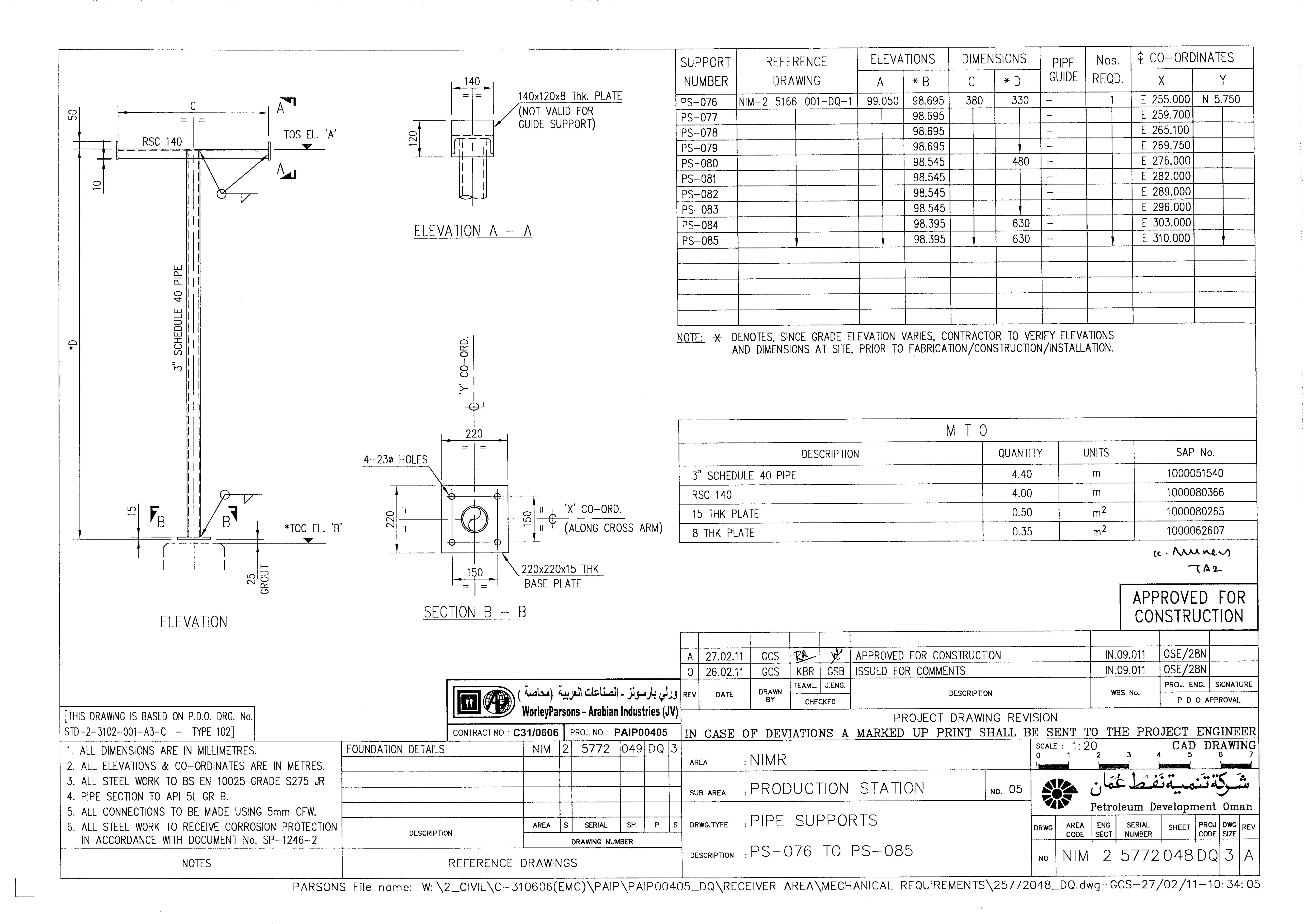
DESCRIPTION	AREA	S	SERIAL	SH.	P	S
–	–	–	–	–	–	–

DRAWING NUMBER

AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG.TYPE : PIPE SUPPORTS–TRUNNION
DESCRIPTION : PS–067

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	047	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\MECHANICAL REQUIREMENTS\25772047_DQ.dwg-GCS-27/02/11-10:34:04



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS A	ELEVATIONS * B	DIMENSIONS C	DIMENSIONS * D	PIPE GUIDE	Nos. REQD.	¢ CO-ORDINATES X	¢ CO-ORDINATES Y
PS-076	NIM-2-5166-001-DQ-1	99.050	98.695	380	330	–	1	E 255.000	N 5.750
PS-077			98.695			–		E 259.700	
PS-078			98.695			–		E 265.100	
PS-079			98.695			–		E 269.750	
PS-080			98.545		480	–		E 276.000	
PS-081			98.545			–		E 282.000	
PS-082			98.545			–		E 289.000	
PS-083			98.545			–		E 296.000	
PS-084			98.395		630	–		E 303.000	
PS-085			98.395		630	–		E 310.000	

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

MTO

DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	4.40	m	1000051540
RSC 140	4.00	m	1000080366
15 THK PLATE	0.50	m^2	1000080265
8 THK PLATE	0.35	m^2	1000062607

K. Mumers
TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RR	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3102-001-A3-C – TYPE 102]

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
FOUNDATION DETAILS	NIM	2	5772	049	DQ	3

AREA : NIMR

SUB AREA : PRODUCTION STATION — NO. 05

DRWG.TYPE : PIPE SUPPORTS

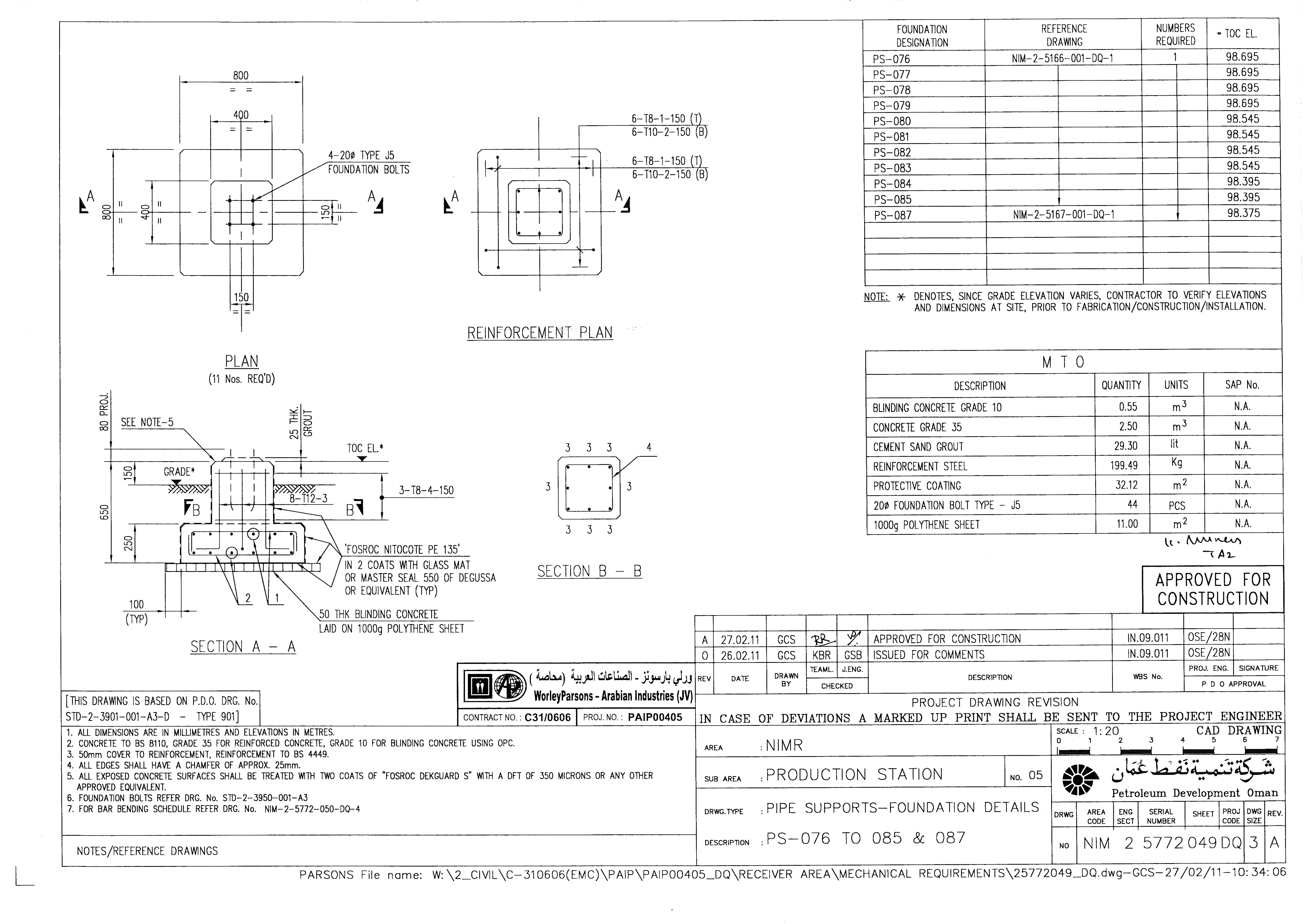
DESCRIPTION : PS-076 TO PS-085

SCALE : 1:20 — CAD DRAWING

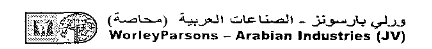
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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	048	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\MECHANICAL REQUIREMENTS\25772048_DQ.dwg-GCS-27/02/11-10:34:05



FOUNDATION DESIGNATION | REFERENCE DRAWING | NUMBERS REQUIRED | * TOC EL.
PS-076 | NIM-2-5166-001-DQ-1 | 1 | 98.695
PS-077 | 98.695
PS-078 | 98.695
PS-079 | 98.695
PS-080 | 98.545
PS-081 | 98.545
PS-082 | 98.545
PS-083 | 98.545
PS-084 | 98.395
PS-085 | 98.395
PS-087 | NIM-2-5167-001-DQ-1 | 98.375
NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.
800
400
4-20ø TYPE J5 FOUNDATION BOLTS
150
A
PLAN
(11 Nos. REQ'D)
6-T8-1-150 (T)
6-T10-2-150 (B)
6-T8-1-150 (T)
6-T10-2-150 (B)
REINFORCEMENT PLAN
M T O
DESCRIPTION | QUANTITY | UNITS | SAP No.
BLINDING CONCRETE GRADE 10 | 0.55 | m3 | N.A.
CONCRETE GRADE 35 | 2.50 | m3 | N.A.
CEMENT SAND GROUT | 29.30 | lit | N.A.
REINFORCEMENT STEEL | 199.49 | Kg | N.A.
PROTECTIVE COATING | 32.12 | m2 | N.A.
20ø FOUNDATION BOLT TYPE - J5 | 44 | PCS | N.A.
1000g POLYTHENE SHEET | 11.00 | m2 | N.A.
80 PROJ.
SEE NOTE-5
25 THK. GROUT
TOC EL.*
GRADE*
150
650
250
3-T8-4-150
8-T12-3
B
'FOSROC NITOCOTE PE 135' IN 2 COATS WITH GLASS MAT OR MASTER SEAL 550 OF DEGUSSA OR EQUIVALENT (TYP)
100 (TYP)
50 THK BLINDING CONCRETE LAID ON 1000g POLYTHENE SHEET
SECTION A - A
3 3 3 4
SECTION B - B
APPROVED FOR CONSTRUCTION
A | 27.02.11 | GCS | APPROVED FOR CONSTRUCTION | IN.09.011 | OSE/28N
0 | 26.02.11 | GCS | KBR | GSB | ISSUED FOR COMMENTS | IN.09.011 | OSE/28N
REV | DATE | DRAWN BY | TEAML. | J.ENG. | CHECKED | DESCRIPTION | WBS No. | PROJ. ENG. | SIGNATURE | P D O APPROVAL
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405
[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3901-001-A3-D - TYPE 901]
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. ALL EDGES SHALL HAVE A CHAMFER OF APPROX. 25mm.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOUNDATION BOLTS REFER DRG. No. STD-2-3950-001-A3
7. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-5772-050-DQ-4
NOTES/REFERENCE DRAWINGS
AREA : NIMR
SUB AREA : PRODUCTION STATION | NO. 05
DRWG.TYPE : PIPE SUPPORTS-FOUNDATION DETAILS
DESCRIPTION : PS-076 TO 085 & 087
SCALE : 1:20
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO | AREA CODE | ENG SECT | SERIAL NUMBER | SHEET | PROJ CODE | DWG SIZE | REV.
NIM 2 5772 049 DQ 3 A
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\MECHANICAL REQUIREMENTS\25772049_DQ.dwg-GCS-27/02/11-10:34:06



BAR BENDING SCHEDULE

JOB NO.:	PAIP00238	Document No.:	NIM-2-5772-050-DQ-4
PART ID.:	PRODUCTION STATION	Revision No.:	A
		Prepared by:	GCS
		Checked by:	PNG RR
REF. DWG NO.:	NIM-2-5772-049-DQ-3	Date:	27.02.11

K. Murrey
TA2

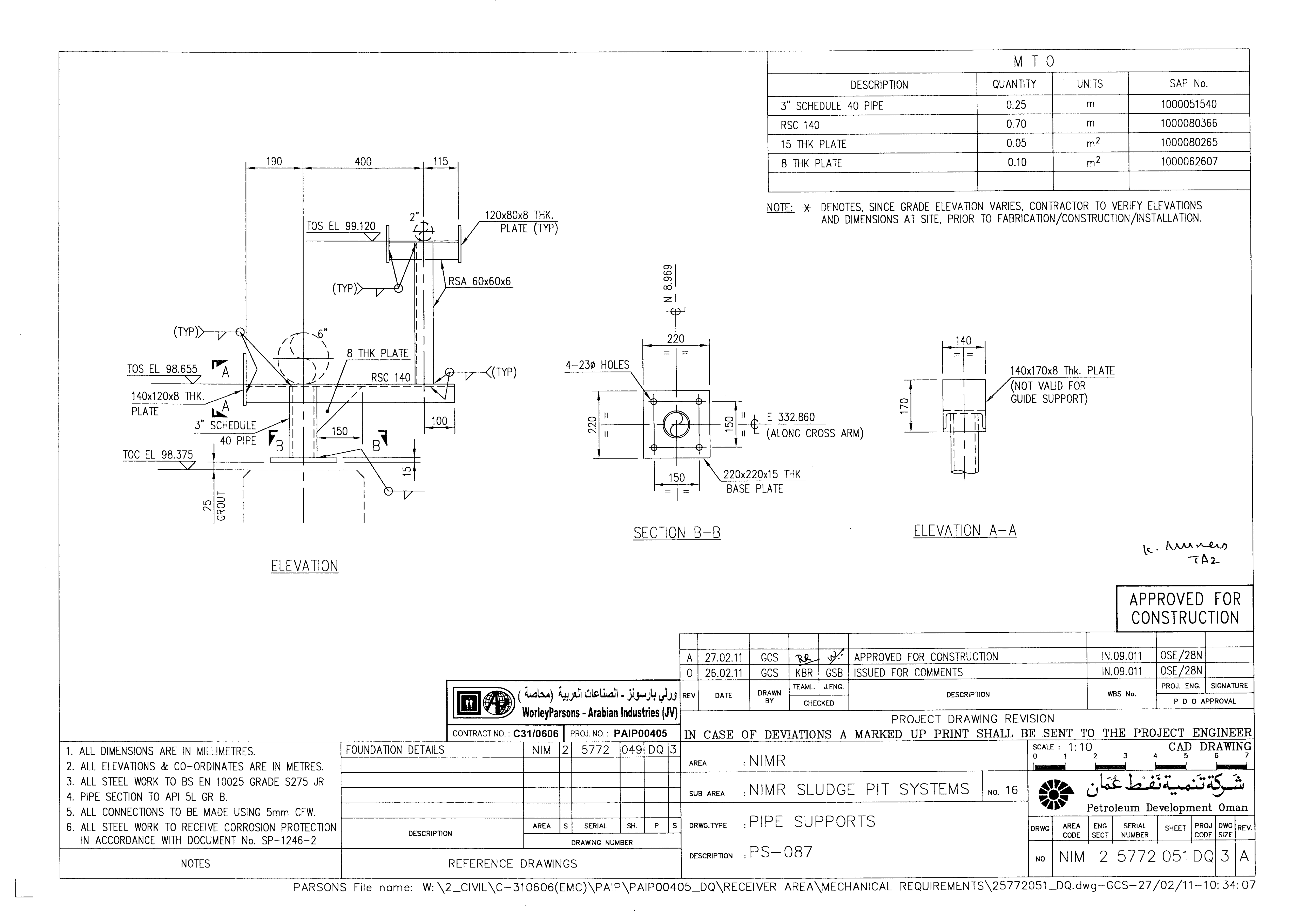
Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		167.48	122.10	63.80				
Weight (Kgs)		66.99	75.71	56.79				

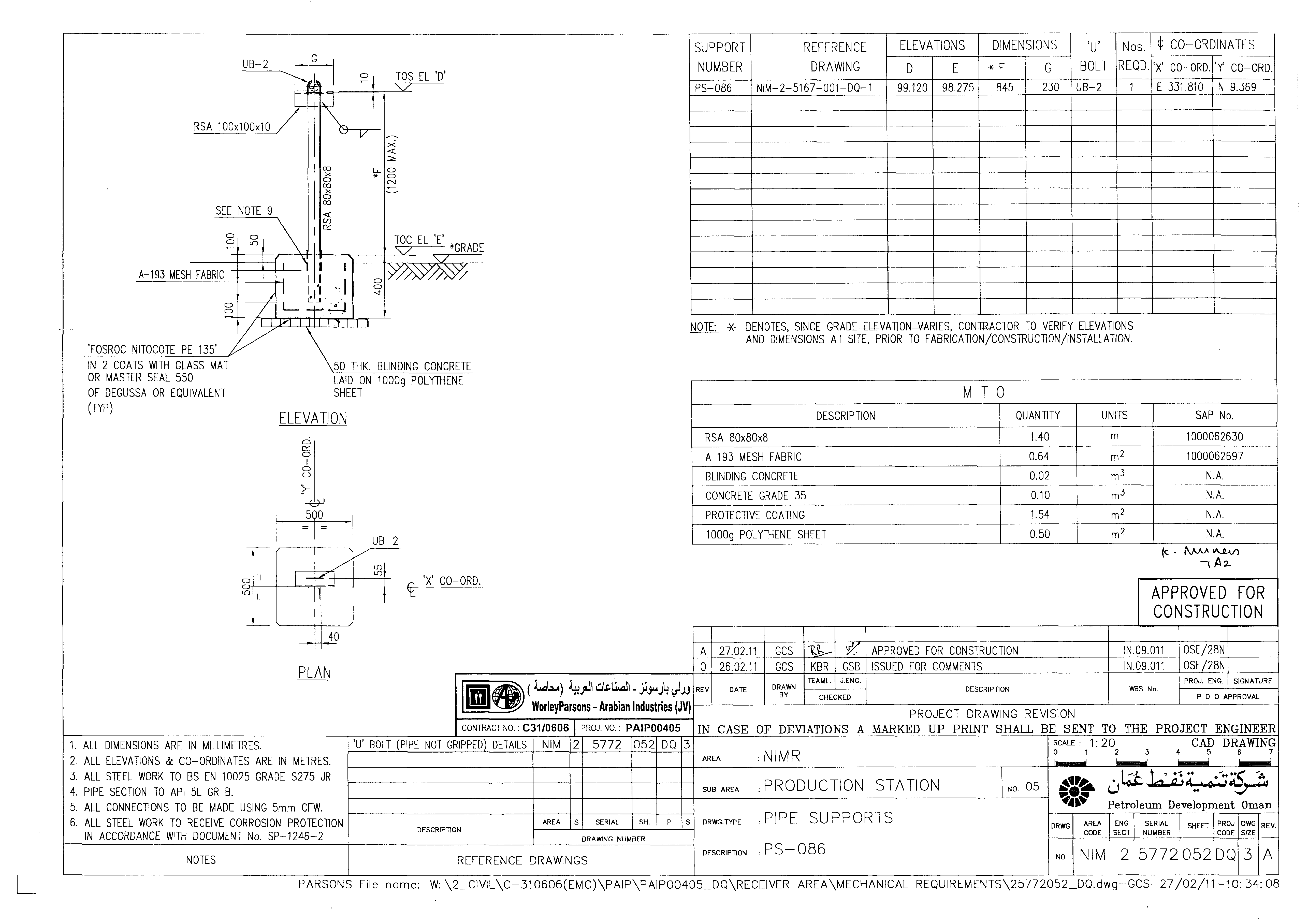
Total Weight (Kgs) 199.490

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PS-076 TO 085	1	T8	11	12	132	925	21	125	700	125		
AND 87	2	T10	11	12	132	925	21	125	700	125		
	3	T12	11	8	88	725	11	200	530			
	4	T8	11	3	33	1375	51	300	300			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



M T O			
DESCRIPTION	QUANTITY	UNITS	SAP No.
3" SCHEDULE 40 PIPE	0.25	m	1000051540
RSC 140	0.70	m	1000080366
15 THK PLATE	0.05	m^2	1000080265
8 THK PLATE	0.10	m^2	1000062607



SUPPORT NUMBER	REFERENCE DRAWING	ELEVATIONS D	ELEVATIONS E	DIMENSIONS * F	DIMENSIONS G	'U' BOLT	Nos. REQD.	℄ CO-ORDINATES 'X' CO-ORD.	℄ CO-ORDINATES 'Y' CO-ORD.
PS-086	NIM-2-5167-001-DQ-1	99.120	98.275	845	230	UB-2	1	E 331.810	N 9.369

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
RSA 80x80x8	1.40	m	1000062630
A 193 MESH FABRIC	0.64	m^2	1000062697
BLINDING CONCRETE	0.02	m^3	N.A.
CONCRETE GRADE 35	0.10	m^3	N.A.
PROTECTIVE COATING	1.54	m^2	N.A.
1000g POLYTHENE SHEET	0.50	m^2	N.A.

K. Muneer 7A2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RB	(signature)	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL ELEVATIONS & CO-ORDINATES ARE IN METRES.
3. ALL STEEL WORK TO BS EN 10025 GRADE S275 JR
4. PIPE SECTION TO API 5L GR B.
5. ALL CONNECTIONS TO BE MADE USING 5mm CFW.
6. ALL STEEL WORK TO RECEIVE CORROSION PROTECTION IN ACCORDANCE WITH DOCUMENT No. SP-1246-2

NOTES

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
'U' BOLT (PIPE NOT GRIPPED) DETAILS	NIM	2	5772	052	DQ	3

REFERENCE DRAWINGS

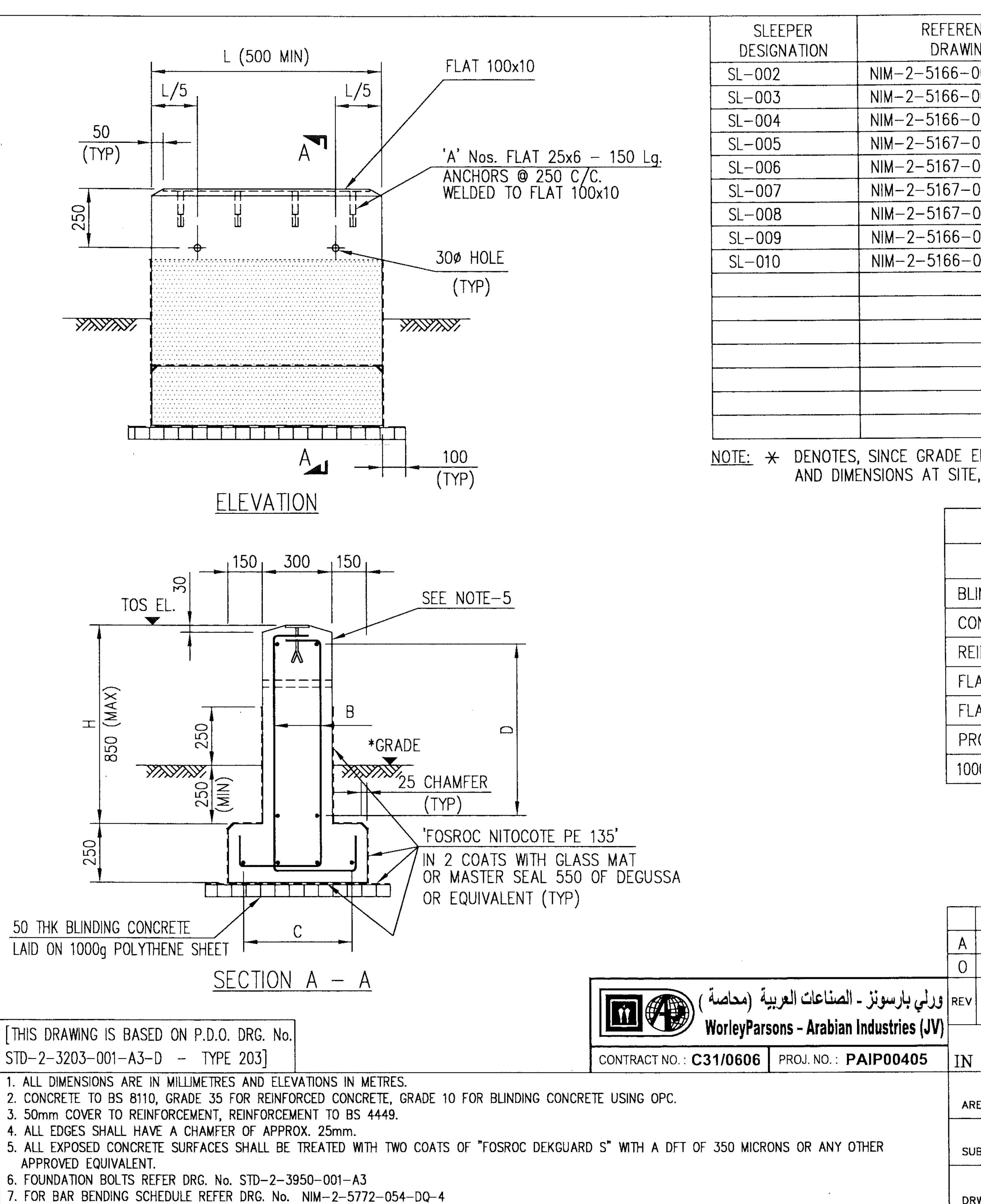
SCALE : 1:20 — CAD DRAWING

AREA : NIMR
SUB AREA : PRODUCTION STATION — NO. 05
DRWG.TYPE : PIPE SUPPORTS
DESCRIPTION : PS-086

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	052	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\MECHANICAL REQUIREMENTS\25772052_DQ.dwg-GCS-27/02/11-10:34:08



SLEEPER DESIGNATION	REFERENCE DRAWING	NOS. REQD.	LENGTH L	* H	TOS EL.	A	REINFORCEMENT		
							B	C	D
SL-002	NIM-2-5166-001-DQ-1	1	500	650	98.655	2	2x4-T10-1-150	4-T10-2-150	2x5-T10-3-150
SL-003	NIM-2-5166-001-DQ-1	1	500	650	98.655	2	2x4-T10-1-150	4-T10-2-150	2x5-T10-3-150
SL-004	NIM-2-5166-001-DQ-1	1	500	650	98.655	2	2x4-T10-1-150	4-T10-2-150	2x5-T10-3-150
SL-005	NIM-2-5167-001-DQ-1	1	500	700	98.655	2	2x4-T10-4-150	4-T10-5-150	2x5-T10-6-150
SL-006	NIM-2-5167-001-DQ-1	1	500	700	98.655	2	2x4-T10-4-150	4-T10-5-150	2x5-T10-6-150
SL-007	NIM-2-5167-001-DQ-1	1	500	650	98.655	2	2x4-T10-1-150	4-T10-2-150	2x5-T10-3-150
SL-008	NIM-2-5167-001-DQ-1	1	500	650	98.655	2	2x4-T10-1-150	4-T10-2-150	2x5-T10-3-150
SL-009	NIM-2-5166-001-DQ-1	1	500	500	98.050	2	2x4-T10-7-150	4-T10-8-150	2x4-T10-9-150
SL-010	NIM-2-5166-001-DQ-1	1	500	500	98.050	2	2x4-T10-7-150	4-T10-8-150	2x4-T10-9-150

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

M T O

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	0.25	m^3	N.A.
CONCRETE GRADE 35	1.52	m^3	N.A.
REINFORCEMENT STEEL	110.33	Kg	N.A.
FLAT 100x10	3.60	m	1000062581
FLAT 25x6	2.70	m	1000062571
PROTECTIVE COATING	18.75	m^2	N.A.
1000g POLYTHENE SHEET	5.04	m^2	N.A.

K. Muner
TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RR	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: **C31/0606** PROJ. NO.: **PAIP00405**

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3203-001-A3-D – TYPE 203]

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. CONCRETE TO BS 8110, GRADE 35 FOR REINFORCED CONCRETE, GRADE 10 FOR BLINDING CONCRETE USING OPC.
3. 50mm COVER TO REINFORCEMENT, REINFORCEMENT TO BS 4449.
4. ALL EDGES SHALL HAVE A CHAMFER OF APPROX. 25mm.
5. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.
6. FOUNDATION BOLTS REFER DRG. No. STD-2-3950-001-A3
7. FOR BAR BENDING SCHEDULE REFER DRG. No. NIM-2-5772-054-DQ-4

NOTES/REFERENCE DRAWINGS

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : PIPE SUPPORTS–SLEEPER DETAILSS

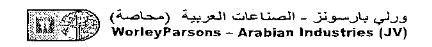
DESCRIPTION : SL–002 TO SL–010

SCALE : 1:20 CAD DRAWING
0 1 2 3 4 5 6 7

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772053	DQ	3	A	

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\MECHANICAL REQUIREMENTS\25772053_DQ.dwg-GCS-27/02/11-10:34:09



BAR BENDING SCHEDULE

JOB NO.: PAIP00238
PART ID.: PRODUCTION STATION

REF. DWG NO.: NJM-2-5772-053-DQ-3

Document No.: NJM-2-5772-054-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG
Date: 27.02.11

K. Muners
TA2

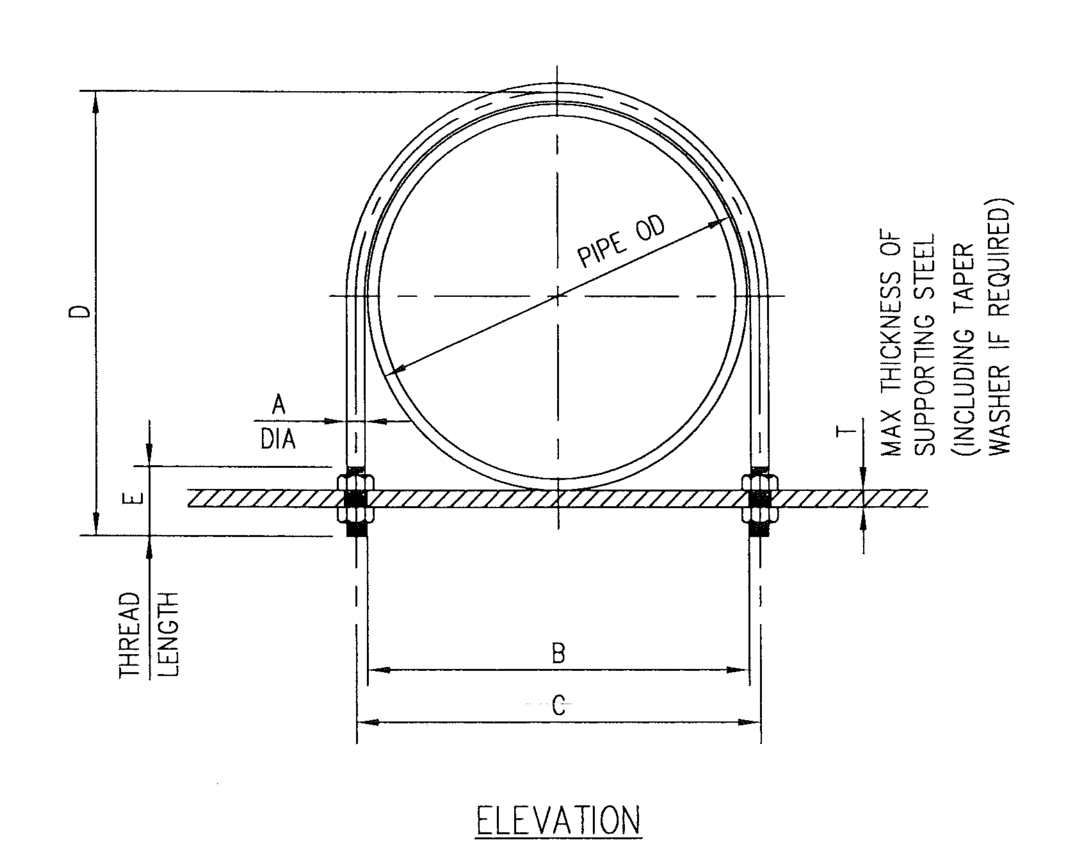
Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)			177.95					
Weight (Kgs)			110.33					

Total Weight (Kgs) 110.330

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
SL-002 TO 004,	1	T10	5	8	40	1375	31	150	770	350	150	
007 & 008	2	T10	5	4	20	625	21	125	400	125		
	3	T10	5	10	50	675	21	150	400	150		
SL-004 & 005	4	T10	2	8	16	1425	31	150	820	350	150	
	5	T10	2	4	8	625	21	125	400	125		
	6	T10	2	10	20	675	21	150	400	150		
SL-009,010	7	T10	2	8	16	1225	31	150	620	350	150	
	8	T10	2	4	8	625	21	125	400	125		
	9	T10	2	8	16	675	21	150	400	150		

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



ELEVATION

PIPE GUIDE DESIGNATION	NOMINAL PIPE SIZE		PIPE OD	DIMENSIONS						Nos. REQD.
	INCHES	MM		A	B	C	D	E	T	
UB-0.5	½"	15	21.3	8	32	40	45	30	10	–
UB-0.75	¾"	20	26.7	8	37	45	55	35	10	1
UB-1	1"	25	33.4	8	42	50	60	35	10	–
UB-1.5	1½"	40	48.3	10	55	65	85	45	16	–
UB-2	2"	50	60.3	10	70	80	100	45	16	3
UB-3	3"	80	88.9	16	94	110	140	60	19	–
UB-4	4"	100	114.3	16	124	140	165	60	19	–
UB-6	6"	150	168.3	20	175	195	225	70	19	–
UB-8	8"	200	219.1	20	230	250	275	70	19	–
UB-10	10"	250	273.0	20	285	305	335	75	22	–
UB-12	12"	300	323.9	20	335	355	385	75	22	–
UB-14	14"	350	355.6	24	366	390	425	80	22	–
UB-16	16"	400	406.4	24	416	440	475	80	22	–
UB-18	18"	450	457.0	24	471	495	525	80	22	–
UB-20	20"	500	508.0	24	521	545	575	80	22	–
UB-24	24"	600	610.0	24	621	645	675	80	22	–
UB-28	28"	700	711.2	24	721	745	775	80	22	–
UB-30	30"	750	762.0	24	771	795	825	80	22	–

MATERIAL GUIDE			
BAR		NUTS	
SIZE	SAP No.	SIZE	SAP No.
8	1000080335	M8	1000063795
10	1000062586	M10	1000063796
16	1000062588	M16	1000063798
20	N.A.	M20	1000063799
24	N.A.	M24	1000120055

APPROVED FOR CONSTRUCTION

[THIS DRAWING IS BASED ON P.D.O. DRG. No. STD-2-3818-001-A3-C – TYPE 818]

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. EACH BOLT TO BE SUPPLIED WITH 2 NUTS & 2 LOCKNUTS.
3. MATERIAL-BOLTS TO BS EN 10025 GR S275 JR NUTS TO ISO 898/11 GR 8
4. U-BOLT CORROSION PROTECTION SHALL COMPLY WITH SP-1246-2

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S

DRAWING NUMBER

AREA : NIMR

SUB AREA : PRODUCTION STATION — NO. 05

DRWG. TYPE : PIPE SUPPORTS

DESCRIPTION : 'U' BOLT (PIPE NOT GRIPPED) DETAILS

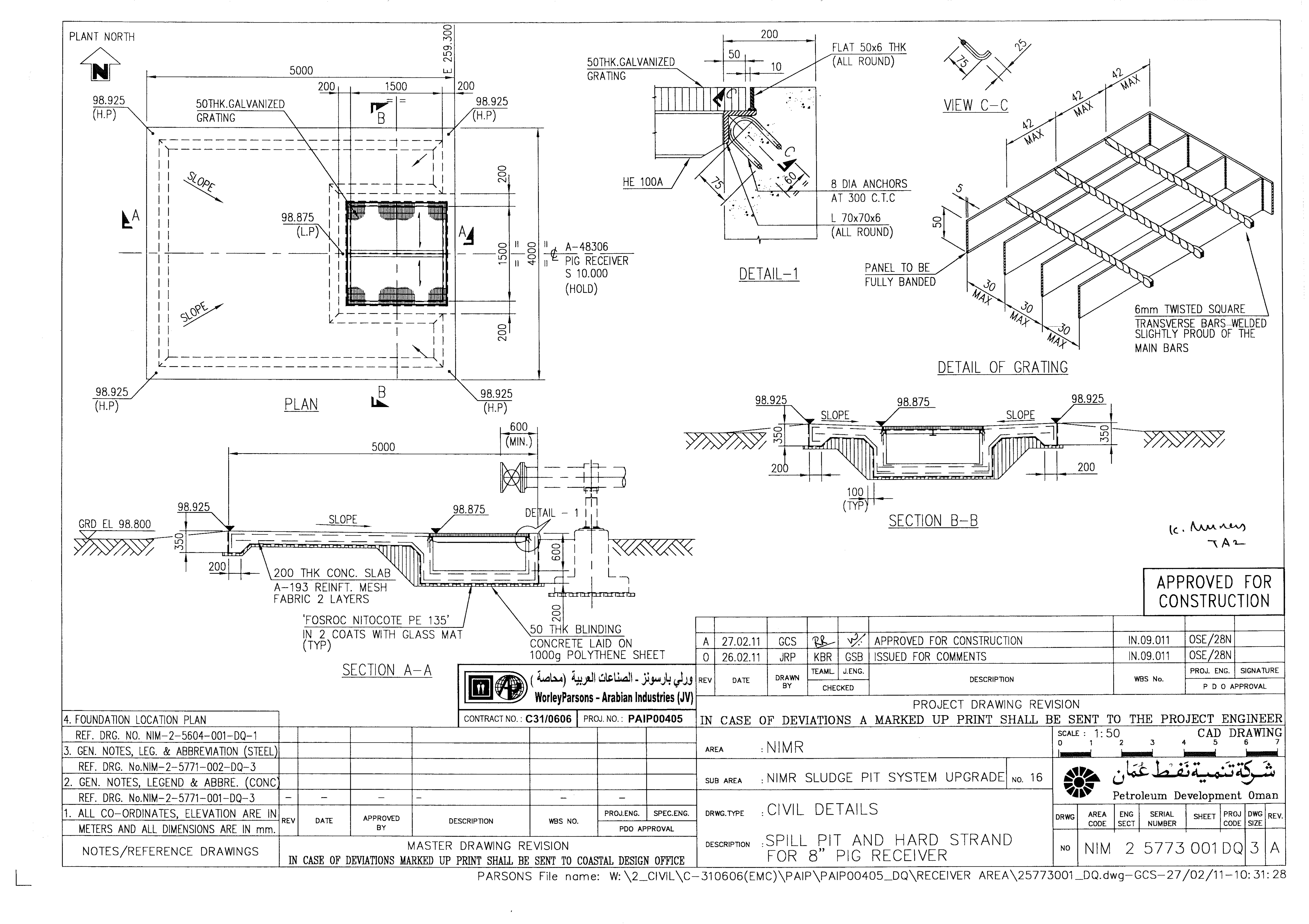
SCALE : – 0 1 2 3 4 5 6 7

CAD DRAWING

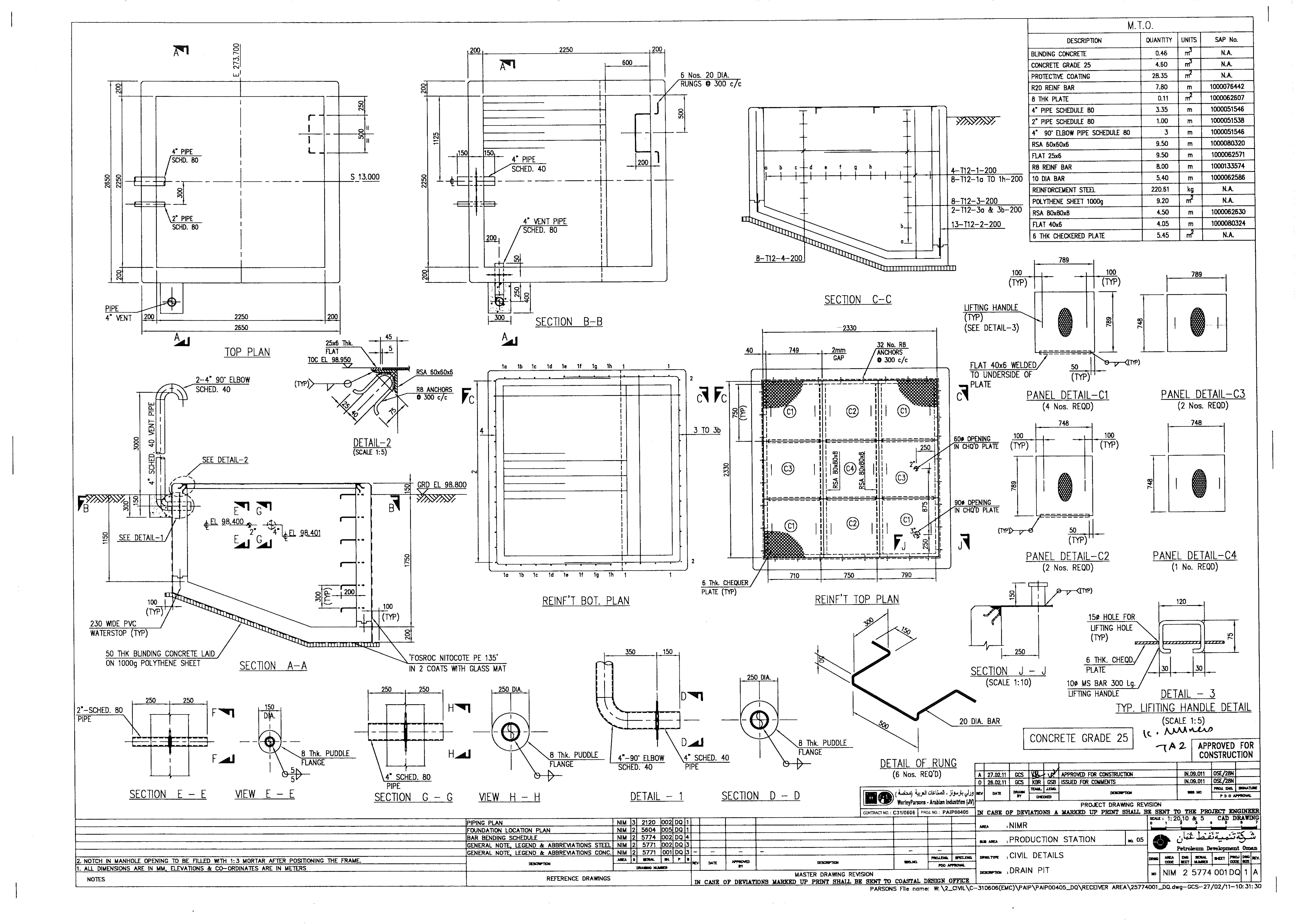
شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5772	055	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\MECHANICAL REQUIREMENTS\25772055_DQ.dwg-GCS-27/02/11-10:34:10



PLANT NORTH
N
E 259.300
5000
200
1500
200
98.925
(H.P)
50THK.GALVANIZED
GRATING
SLOPE
SLOPE
98.875
(L.P)
A
B
200
1500
200
4000
A-48306
PIG RECEIVER
S 10.000
(HOLD)
PLAN
50THK.GALVANIZED
GRATING
200
50
10
FLAT 50x6 THK
(ALL ROUND)
HE 100A
75
60
8 DIA ANCHORS
AT 300 C.T.C
L 70x70x6
(ALL ROUND)
DETAIL-1
VIEW C-C
75
25
42
MAX
5
50
PANEL TO BE
FULLY BANDED
30
MAX
6mm TWISTED SQUARE
TRANSVERSE BARS WELDED
SLIGHTLY PROUD OF THE
MAIN BARS
DETAIL OF GRATING
98.925
98.875
98.925
SLOPE
SLOPE
350
200
200
100
(TYP)
SECTION B-B
600
(MIN.)
5000
98.925
GRD EL 98.800
SLOPE
98.875
DETAIL - 1
350
200
600
200
200 THK CONC. SLAB
A-193 REINFT. MESH
FABRIC 2 LAYERS
'FOSROC NITOCOTE PE 135'
IN 2 COATS WITH GLASS MAT
(TYP)
50 THK BLINDING
CONCRETE LAID ON
1000g POLYTHENE SHEET
SECTION A-A
APPROVED FOR
CONSTRUCTION
A | 27.02.11 | GCS | APPROVED FOR CONSTRUCTION | IN.09.011 | OSE/28N
0 | 26.02.11 | JRP | KBR | GSB | ISSUED FOR COMMENTS | IN.09.011 | OSE/28N
REV | DATE | DRAWN BY | TEAML. | J.ENG. | CHECKED | DESCRIPTION | WBS No. | PROJ. ENG. | SIGNATURE | P D O APPROVAL
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
4. FOUNDATION LOCATION PLAN
REF. DRG. NO. NIM-2-5604-001-DQ-1
3. GEN. NOTES, LEG. & ABBREVIATION (STEEL)
REF. DRG. No.NIM-2-5771-002-DQ-3
2. GEN. NOTES, LEGEND & ABBRE. (CONC)
REF. DRG. No.NIM-2-5771-001-DQ-3
1. ALL CO-ORDINATES, ELEVATION ARE IN
METERS AND ALL DIMENSIONS ARE IN mm.
NOTES/REFERENCE DRAWINGS
REV | DATE | APPROVED BY | DESCRIPTION | WBS NO. | PROJ.ENG. | SPEC.ENG. | PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT SYSTEM UPGRADE
NO. 16
DRWG.TYPE : CIVIL DETAILS
DESCRIPTION : SPILL PIT AND HARD STRAND FOR 8" PIG RECEIVER
SCALE : 1:50
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG | AREA CODE | ENG SECT | SERIAL NUMBER | SHEET | PROJ CODE | DWG SIZE | REV.
NO | NIM | 2 | 5773 | 001 | DQ | 3 | A
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25773001_DQ.dwg-GCS-27/02/11-10:31:28



M.T.O.			
DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	0.46	m^3	N.A.
CONCRETE GRADE 25	4.60	m^3	N.A.
PROTECTIVE COATING	28.35	m^2	N.A.
R20 REINF BAR	7.80	m	1000076442
8 THK PLATE	0.11	m^2	1000062607
4" PIPE SCHEDULE 80	3.35	m	1000051546
2" PIPE SCHEDULE 80	1.00	m	1000051538
4" 90° ELBOW PIPE SCHEDULE 80	3	m	1000051546
RSA 60x60x6	9.50	m	1000080320
FLAT 25x6	9.50	m	1000062571
R8 REINF BAR	8.00	m	1000133574
10 DIA BAR	5.40	m	1000062586
REINFORCEMENT STEEL	220.61	kg	N.A.
POLYTHENE SHEET 1000g	9.20	m^2	N.A.
RSA 80x80x8	4.50	m	1000062630
FLAT 40x6	4.05	m	1000080324
6 THK CHECKERED PLATE	5.45	m^2	N.A.

REV	DATE	DRAWN BY	TEAM L.	J.ENG.	DESCRIPTION		PROJ. ENG.
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE: 1:20,10 & 5 CAD DRAWING

AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG. TYPE : CIVIL DETAILS
DESCRIPTION : DRAIN PIT

شركة تنمية نفط عمان
Petroleum Development Oman

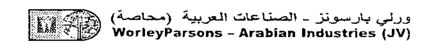
DRWG NO: NIM 2 5774 001 DQ 1 A

REFERENCE DRAWINGS	AREA	S	SERIAL	SH.	P	S
PIPING PLAN	NIM	3	2120	002	DQ	1
FOUNDATION LOCATION PLAN	NIM	2	5604	005	DQ	1
BAR BENDING SCHEDULE	NIM	2	5774	002	DQ	4
GENERAL NOTE, LEGEND & ABBREVIATIONS STEEL	NIM	2	5771	002	DQ	3
GENERAL NOTE, LEGEND & ABBREVIATIONS CONC.	NIM	2	5771	001	DQ	3

NOTES
1. ALL DIMENSIONS ARE IN MM, ELEVATIONS & CO-ORDINATES ARE IN METERS
2. NOTCH IN MANHOLE OPENING TO BE FILLED WITH 1:3 MORTAR AFTER POSITIONING THE FRAME.

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25774001_DQ.dwg-GCS-27/02/11-10:31:30



BAR BENDING SCHEDULE

JOB NO.: PAIP00405
PART ID.: PRODUCTION STATION DRAIN PIT

REF. DWG NO.: NIM-2-5774-001-DQ-3

Document No.: NIM-2-5774-002-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG [initials]
Date: 27.02.11

K. Anunesh
- A2

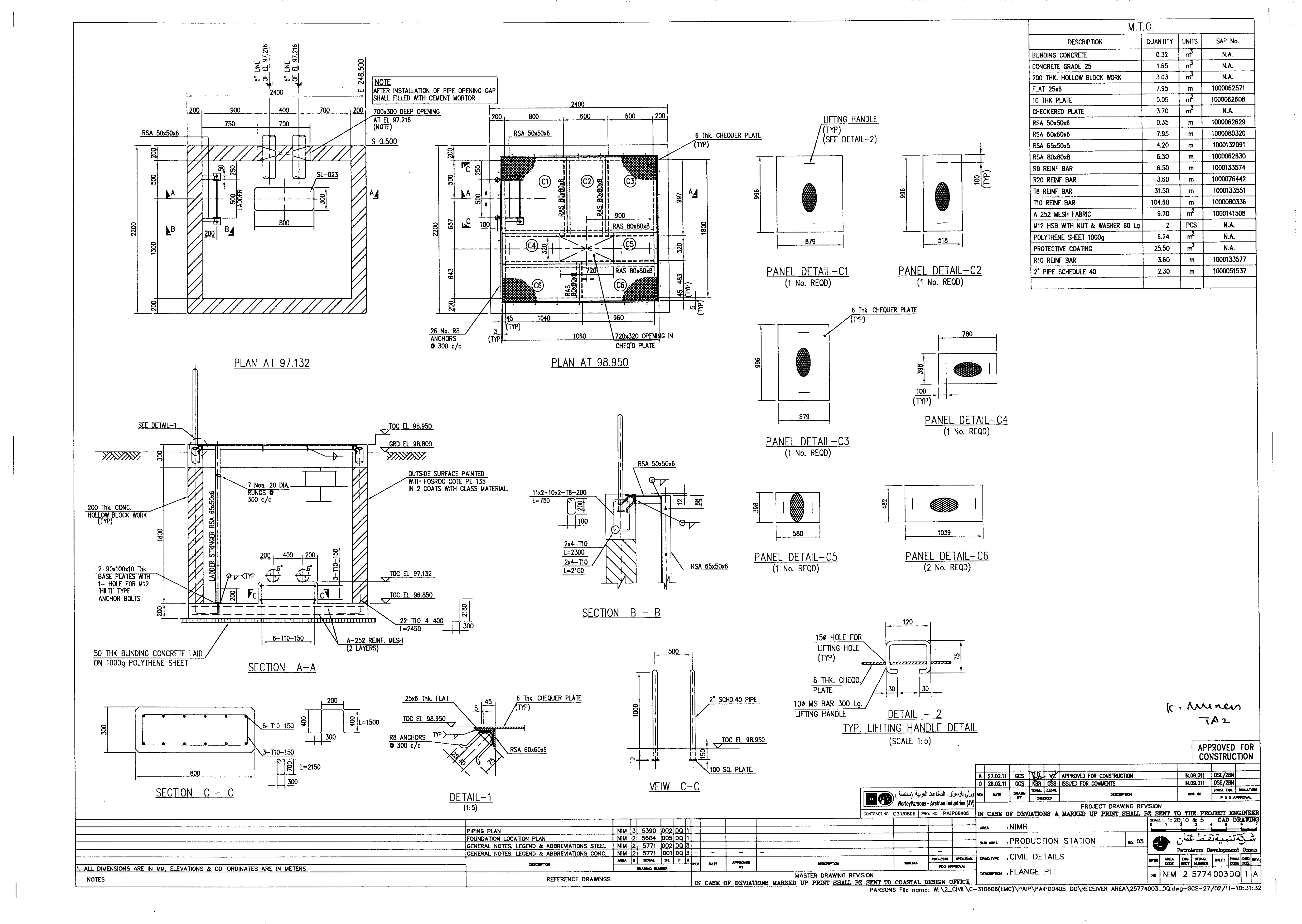
Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)				247.88				
Weight (Kgs)				220.61				

Total Weight (Kgs) 220.610

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
DRAIN PIT	1	T12	1	4	4	6400	21	1990	2450	1990		
	1a	T12	1	1	1	5200	21	1390	2450	1390		
	1b	T12	1	1	1	5350	21	1470	2450	1470		
	1c	T12	1	1	1	5500	21	1545	2450	1545		
	1d	T12	1	1	1	5675	21	1625	2450	1625		
	1e	T12	1	1	1	5825	21	1700	2450	1700		
	1f	T12	1	1	1	5975	21	1775	2450	1775		
	1g	T12	1	1	1	6125	21	1850	2450	1850		
	1h	T12	1	1	1	6275	21	1925	2450	1925		
	2	T12	1	13	13	5850	99f	1330	1955	630	635	1960
	3	T12	1	8	8	5500	21	1540	2450	1540		
	3a	T12	1	1	1	5500	41	300	1270	2450	1270	300
	3b	T12	1	1	1	6800	41	300	1920	2450	1920	300
	4	T12	1	8	8	5500	21	1540	2450	1540		

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	0.32	m^3	N.A.
CONCRETE GRADE 25	1.65	m^3	N.A.
200 THK. HOLLOW BLOCK WORK	3.03	m^3	N.A.
FLAT 25x6	7.95	m	1000062571
10 THK PLATE	0.05	m^2	1000062608
CHECKERED PLATE	3.70	m^2	N.A.
RSA 50x50x6	0.35	m	1000062629
RSA 60x60x6	7.95	m	1000080320
RSA 65x50x5	4.20	m	1000132091
RSA 80x80x8	6.50	m	1000062630
R8 REINF BAR	6.50	m	1000133574
R20 REINF BAR	3.60	m	1000076442
T8 REINF BAR	31.50	m	1000133551
T10 REINF BAR	104.60	m	1000080336
A 252 MESH FABRIC	9.70	m^2	1000141508
M12 HSB WITH NUT & WASHER 60 Lg	2	PCS	N.A.
POLYTHENE SHEET 1000g	6.24	m^2	N.A.
PROTECTIVE COATING	25.50	m^2	N.A.
R10 REINF BAR	3.60	m	1000133577
2" PIPE SCHEDULE 40	2.30	m	1000051537

REV	DATE	DRAWN BY	CHECKED TEAM L.	CHECKED J.ENG.	DESCRIPTION	WBS NO	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/2BN	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/2BN	

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE: 1:20,10 & 5 CAD DRAWING

AREA: NIMR
SUB AREA: PRODUCTION STATION NO. 05
DRWG. TYPE: CIVIL DETAILS
DESCRIPTION: FLANGE PIT

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5774 003	DQ	1		A

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPING PLAN	NIM	3	5390	002	DQ	1
FOUNDATION LOCATION PLAN	NIM	2	5604	005	DQ	1
GENERAL NOTES, LEGEND & ABBREVIATIONS STEEL	NIM	2	5771	002	DQ	3
GENERAL NOTES, LEGEND & ABBREVIATIONS CONC.	NIM	2	5771	001	DQ	3

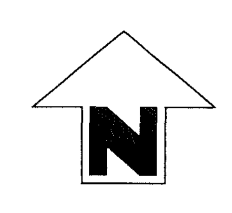
REFERENCE DRAWINGS

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

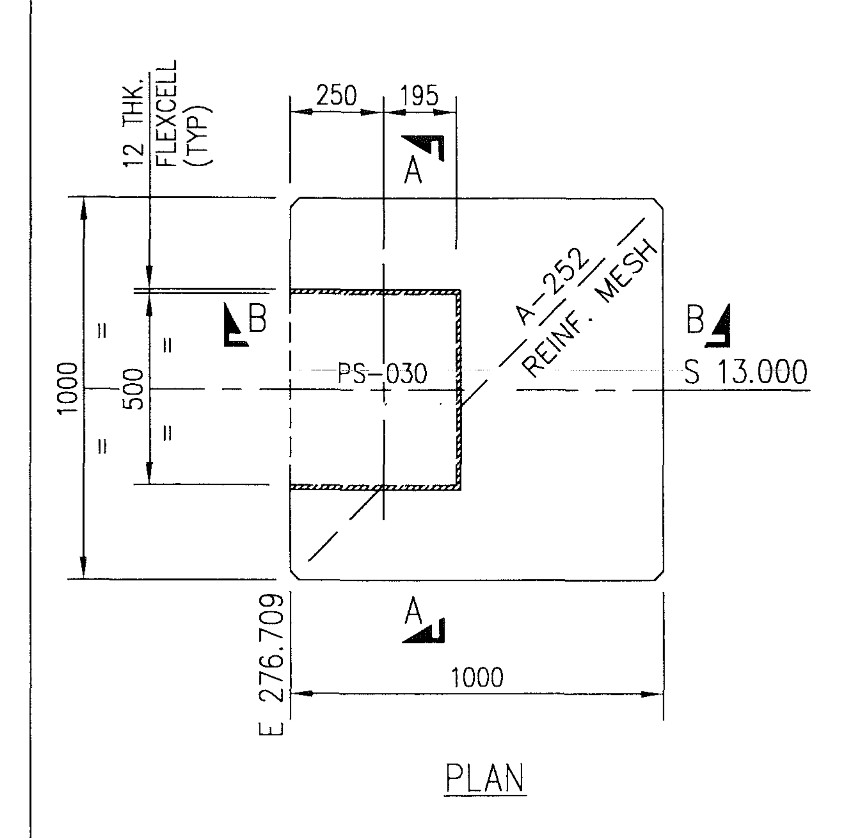
1. ALL DIMENSIONS ARE IN MM, ELEVATIONS & CO-ORDINATES ARE IN METERS

NOTES

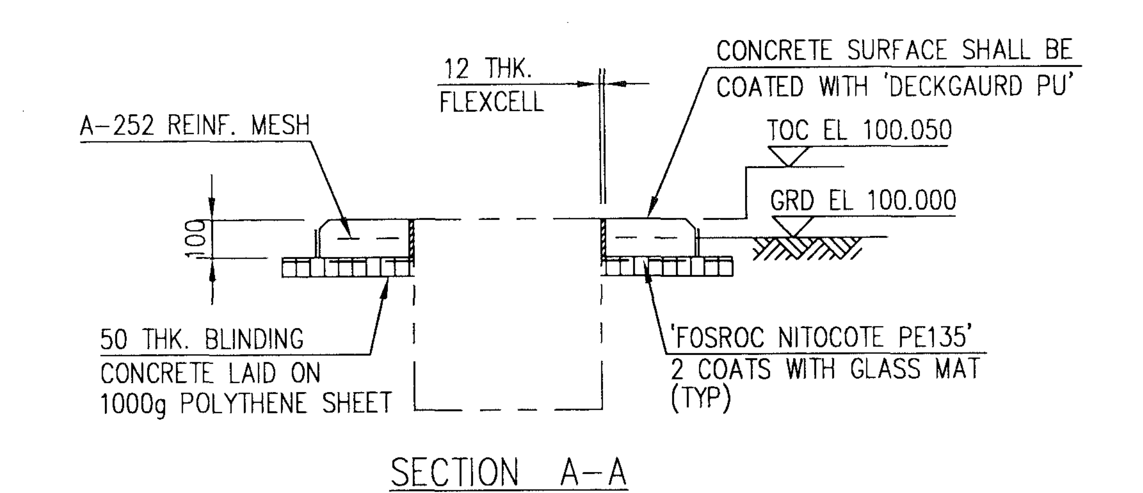
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25774003_DQ.dwg-GCS-27/02/11-10:31:32



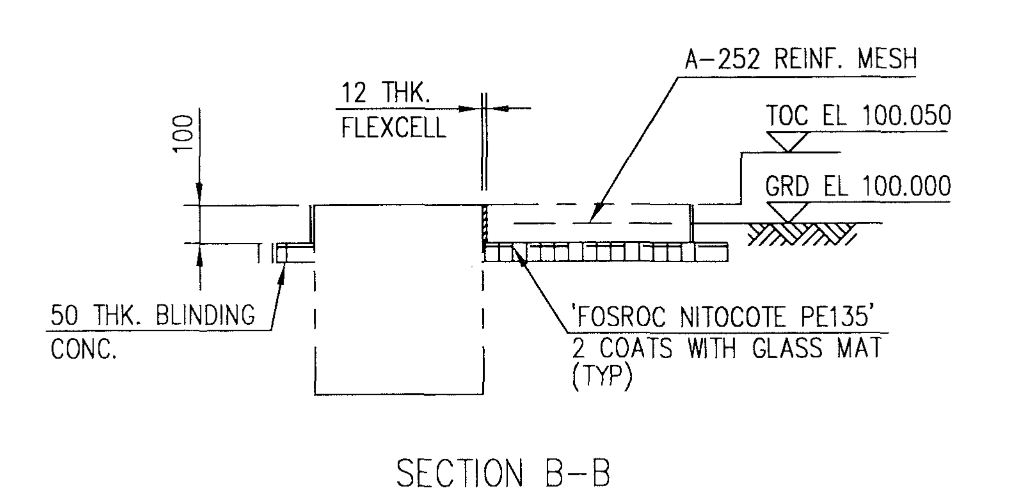
M.T.O.		
DESCRIPTION	QUANTITY	UNITS
BLINDING CONCRETE	0.06	m^3
CONCRETE GRADE 25	0.08	m^3
PROTECTION COATING	1.60	m^2
12 THK. FLEXCELL	0.15	m
A-252 REINFT. MESH	0.60	m^2
1000g POLYTHENE SHEET	1.22	m^2



PLAN



SECTION A-A



SECTION B-B

K. Amneus
TA2

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	27.02.11	GCS	RK	W	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	28.12.10	JRP			ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: **C31/0606** PROJ. NO.: **PAIP00405**

NOTES/REFERENCE DRAWINGS	REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
2. FOUNDATION LOCATION PLAN REF. DRG. No; NIM-2-5604-001-DQ-1	-	-	-	-	-		
1. GEN. NOTES, LEGEND AND ABBREVIATIONS (CONC.) REF. DRG. No: NIM-2-5771-001-DQ-3						PDO APPROVAL	

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

SCALE: 1:20 — CAD DRAWING

AREA: NIMR

SUB AREA: NIMR SLUDGE PIT SYSTEM UPGRADE NO. 16

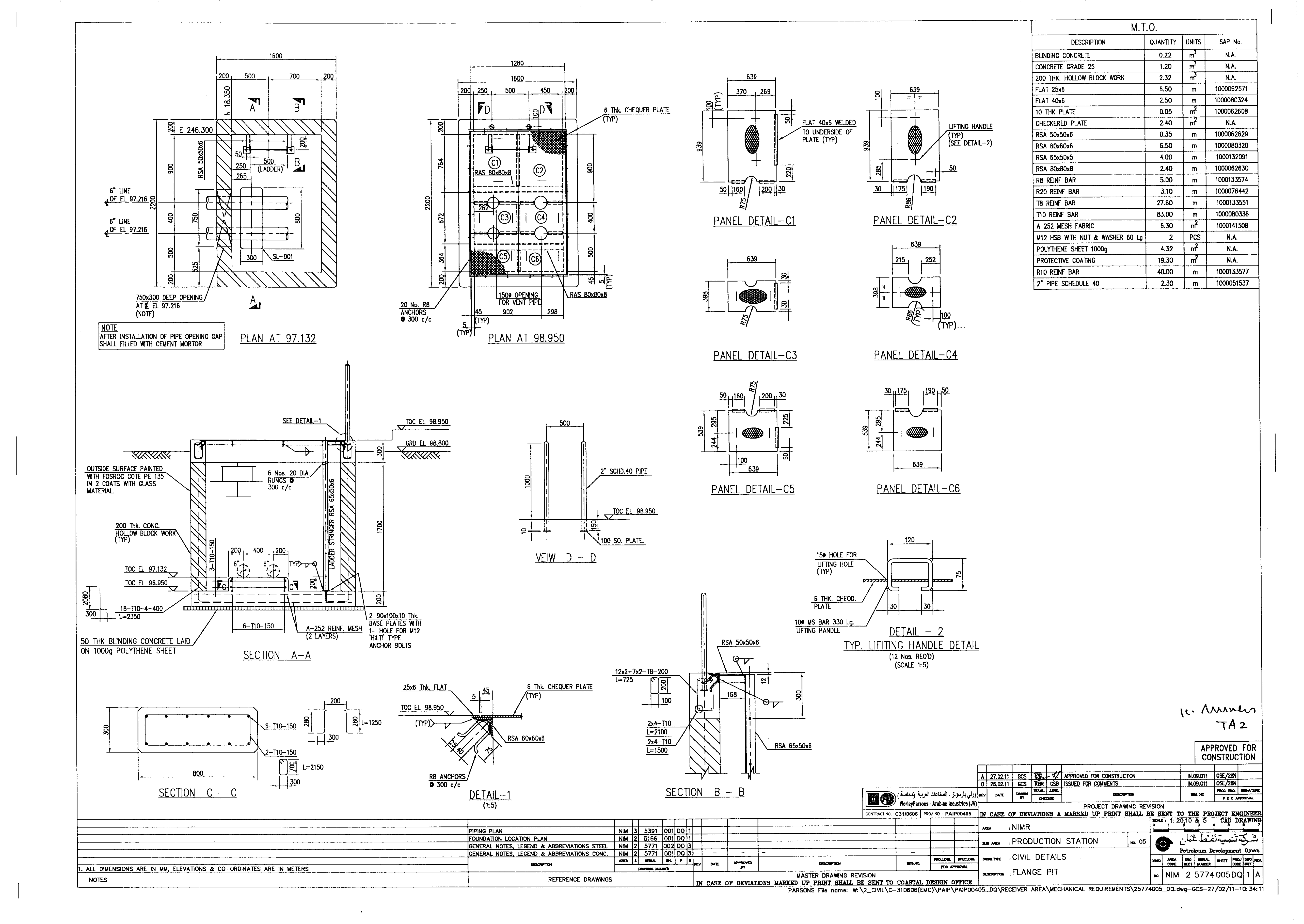
DRWG.TYPE: CIVIL DETAIL

DESCRIPTION: HARD STAND

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Petroleum Development Oman

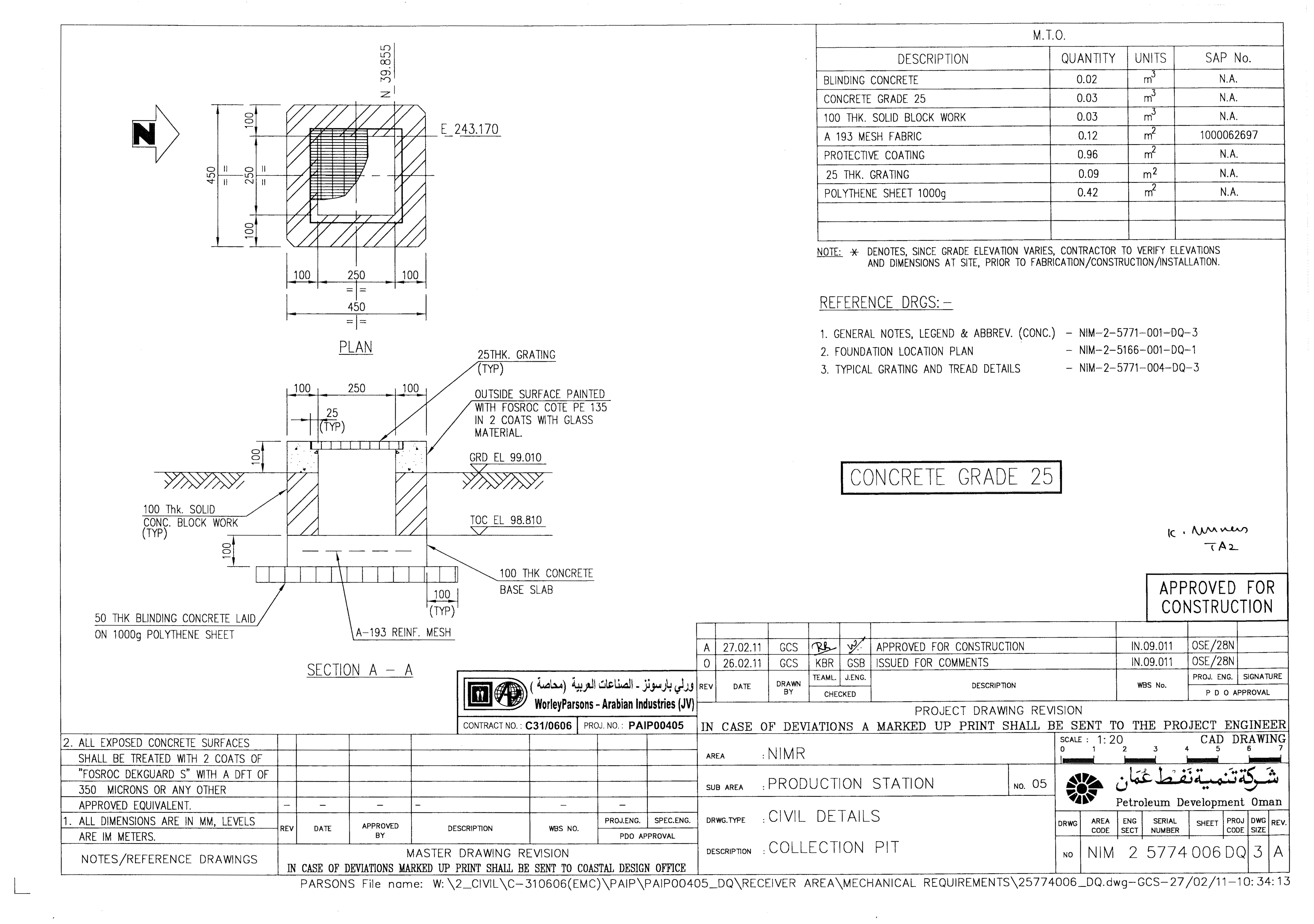
DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5774	004	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25774004_DQ.dwg-GCS-27/02/11-10:31:33



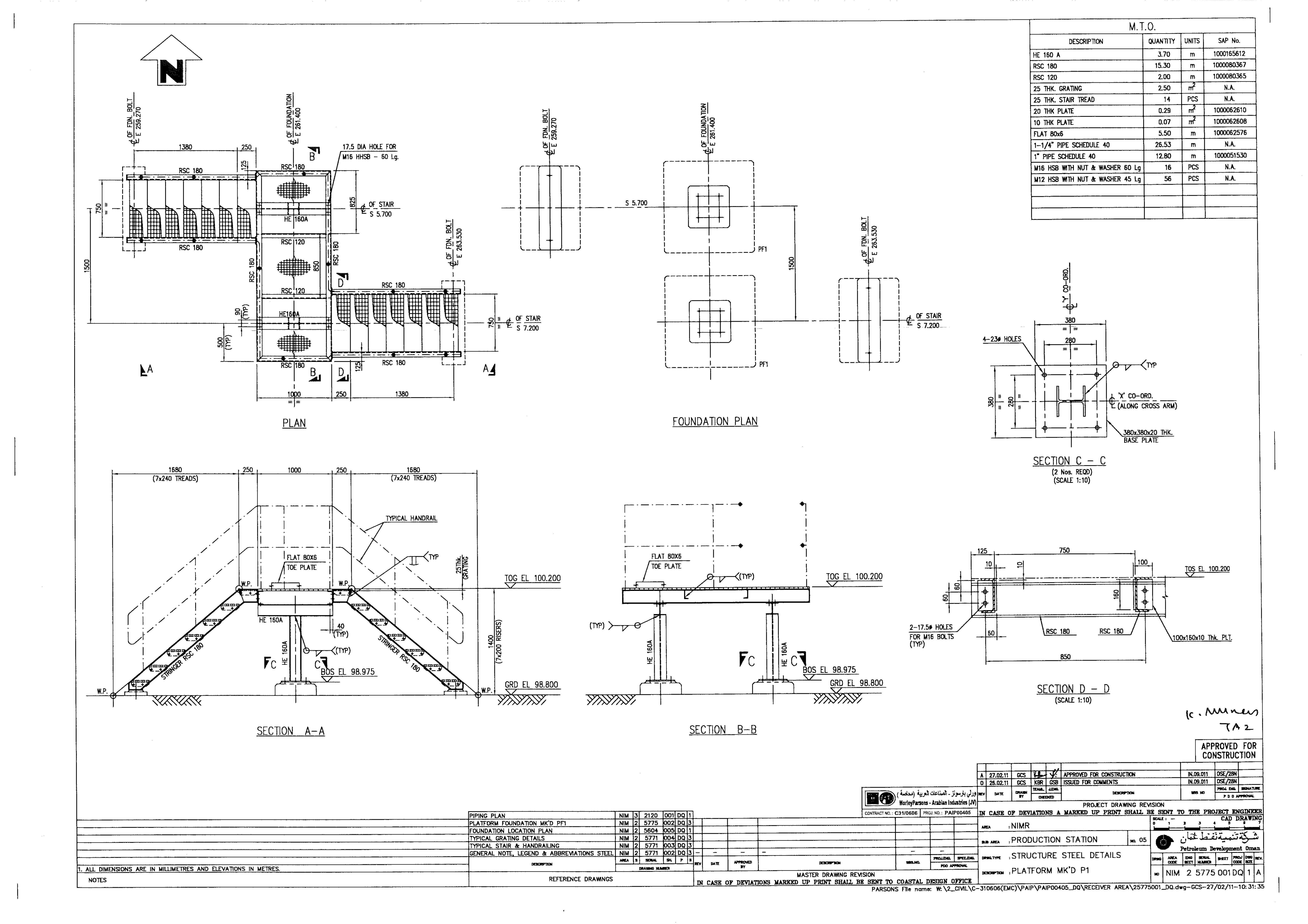
M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	0.22	m³	N.A.
CONCRETE GRADE 25	1.20	m³	N.A.
200 THK. HOLLOW BLOCK WORK	2.32	m³	N.A.
FLAT 25x6	6.50	m	1000062571
FLAT 40x6	2.50	m	1000080324
10 THK PLATE	0.05	m²	1000062608
CHECKERED PLATE	2.40	m²	N.A.
RSA 50x50x6	0.35	m	1000062629
RSA 60x60x6	6.50	m	1000080320
RSA 65x50x5	4.00	m	1000132091
RSA 80x80x8	2.40	m	1000062630
R8 REINF BAR	5.00	m	1000133574
R20 REINF BAR	3.10	m	1000076442
T8 REINF BAR	27.60	m	1000133551
T10 REINF BAR	83.00	m	1000080336
A 252 MESH FABRIC	6.30	m²	1000141508
M12 HSB WITH NUT & WASHER 60 Lg	2	PCS	N.A.
POLYTHENE SHEET 1000g	4.32	m²	N.A.
PROTECTIVE COATING	19.30	m²	N.A.
R10 REINF BAR	40.00	m	1000133577
2" PIPE SCHEDULE 40	2.30	m	1000051537



M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	0.02	m^3	N.A.
CONCRETE GRADE 25	0.03	m^3	N.A.
100 THK. SOLID BLOCK WORK	0.03	m^3	N.A.
A 193 MESH FABRIC	0.12	m^2	1000062697
PROTECTIVE COATING	0.96	m^2	N.A.
25 THK. GRATING	0.09	m^2	N.A.
POLYTHENE SHEET 1000g	0.42	m^2	N.A.



M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
HE 160 A	3.70	m	1000165612
RSC 180	15.30	m	1000080367
RSC 120	2.00	m	1000080365
25 THK. GRATING	2.50	m^2	N.A.
25 THK. STAIR TREAD	14	PCS	N.A.
20 THK PLATE	0.29	m^2	1000062610
10 THK PLATE	0.07	m^2	1000062608
FLAT 80x6	5.50	m	1000062576
1-1/4" PIPE SCHEDULE 40	26.53	m	N.A.
1" PIPE SCHEDULE 40	12.80	m	1000051530
M16 HSB WITH NUT & WASHER 60 Lg	16	PCS	N.A.
M12 HSB WITH NUT & WASHER 45 Lg	56	PCS	N.A.

REV	DATE	DRAWN BY	CHECKED TEAM.L	CHECKED J.ENG.	DESCRIPTION	WRS NO	PROJ. ENG.
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

REFERENCE DRAWINGS	AREA		SERIAL	SH.	P	R
PIPING PLAN	NIM	3	2120	001	DQ	1
PLATFORM FOUNDATION MK'D PF1	NIM	2	5775	002	DQ	3
FOUNDATION LOCATION PLAN	NIM	2	5604	005	DQ	1
TYPICAL GRATING DETAILS	NIM	2	5771	004	DQ	3
TYPICAL STAIR & HANDRAILING	NIM	2	5771	003	DQ	3
GENERAL NOTE, LEGEND & ABBREVIATIONS STEEL	NIM	2	5771	002	DQ	3

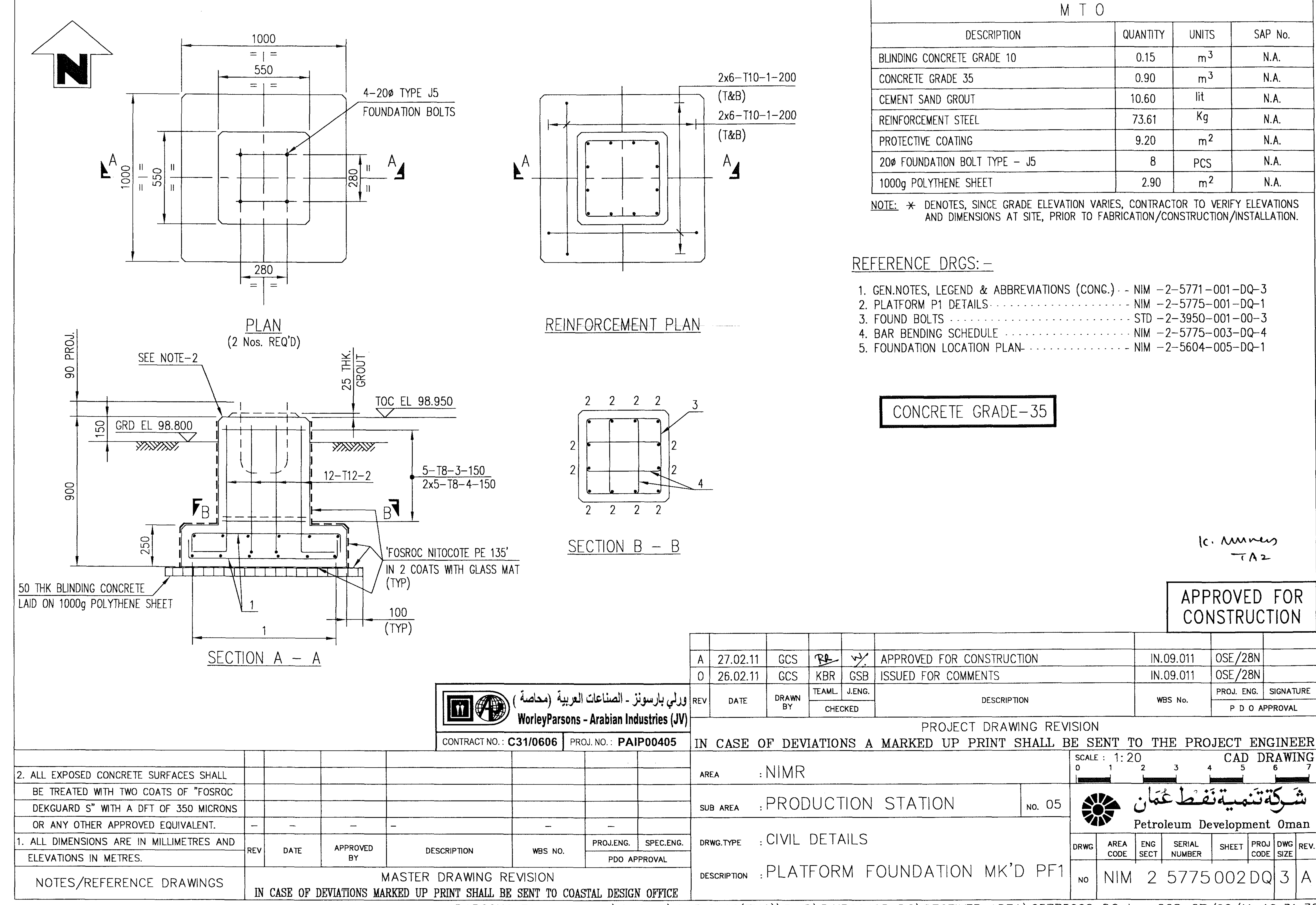
NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

AREA: NIMR
SUB AREA: PRODUCTION STATION NO. 05
DRWG.TYPE: STRUCTURE STEEL DETAILS
DESCRIPTION: PLATFORM MK'D P1
SCALE: — CAD DRAWING
Petroleum Development Oman
DRWG NO: NIM 2 5775 001 DQ 1 A

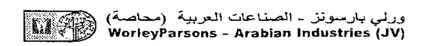
PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25775001_DQ.dwg–GCS–27/02/11–10:31:35



DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE GRADE 10	0.15	m^3	N.A.
CONCRETE GRADE 35	0.90	m^3	N.A.
CEMENT SAND GROUT	10.60	lit	N.A.
REINFORCEMENT STEEL	73.61	Kg	N.A.
PROTECTIVE COATING	9.20	m^2	N.A.
20ø FOUNDATION BOLT TYPE – J5	8	PCS	N.A.
1000g POLYTHENE SHEET	2.90	m^2	N.A.

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PROJ. ENG.	SIGNATURE
A	27.02.11	GCS	RR	W	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25775002_DQ.dwg-GCS-27/02/11-10:31:36



BAR BENDING SCHEDULE

JOB NO.: PAIP00238
PART ID.: PRODUCTION STATION PLATFORM-P1

REF. DWG NO.: NIM-2-5775-002-DQ-3

Document No.: NIM-2-5775-003-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG
Date: 27.02.11

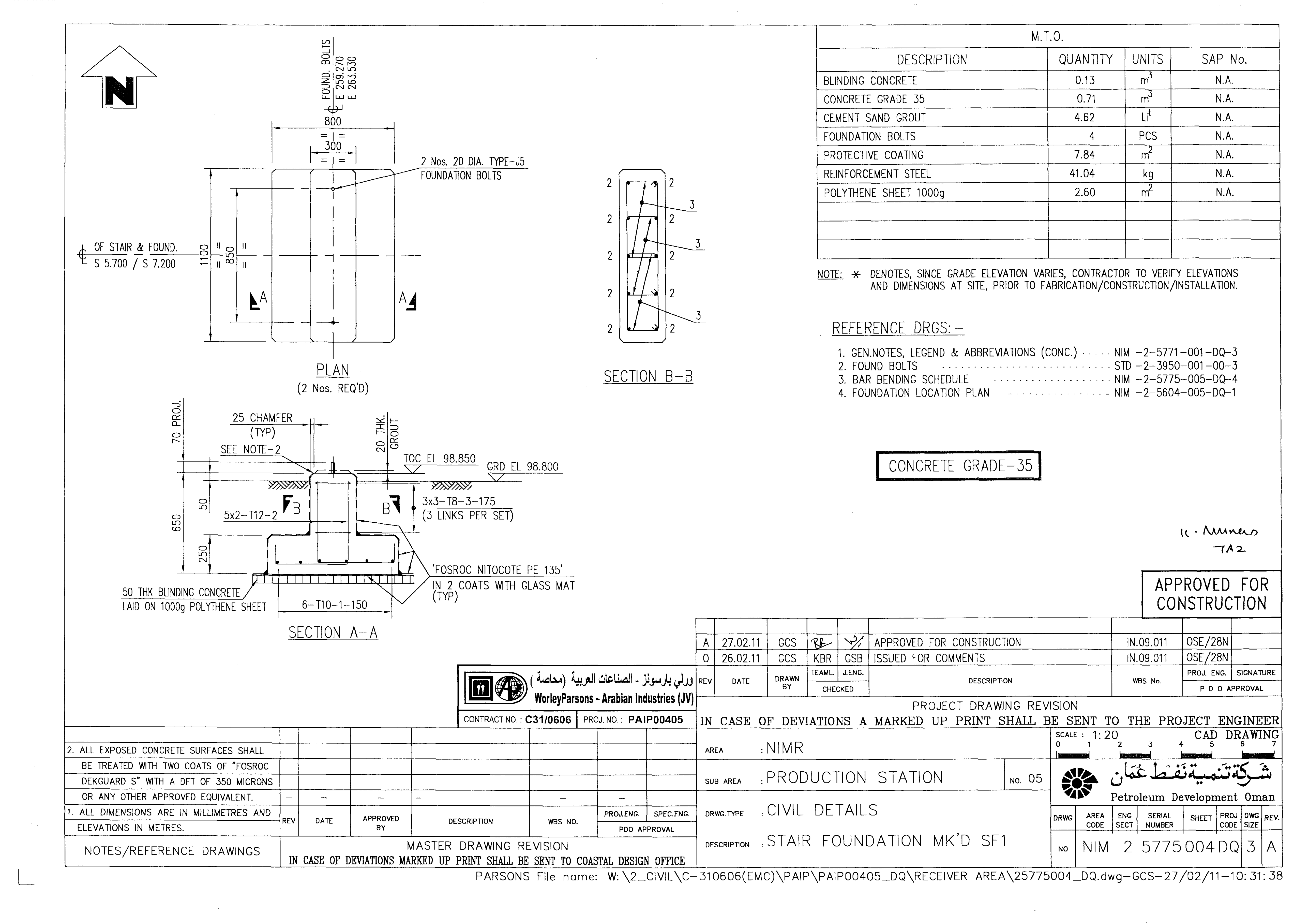
K. Murners TA2

Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		48.25	54.00	23.40				
Weight (Kgs)		19.30	33.48	20.83				
Total Weight (Kgs)								73.610

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PLATFORM-P1	1	T10	2	24	48	1125	21	125	900	125		
	2	T12	2	12	24	975	11	200	780			
	3	T8	2	5	10	1975	51	450	450			
	4	T8	2	10	20	1425	51	450	175			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	0.13	m^3	N.A.
CONCRETE GRADE 35	0.71	m^3	N.A.
CEMENT SAND GROUT	4.62	Lt^t	N.A.
FOUNDATION BOLTS	4	PCS	N.A.
PROTECTIVE COATING	7.84	m^2	N.A.
REINFORCEMENT STEEL	41.04	kg	N.A.
POLYTHENE SHEET 1000g	2.60	m^2	N.A.

NOTE: ✱ DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

REFERENCE DRGS:-

1. GEN.NOTES, LEGEND & ABBREVIATIONS (CONC.) ..... NIM -2-5771-001-DQ-3
2. FOUND BOLTS .... STD -2-3950-001-00-3
3. BAR BENDING SCHEDULE .... NIM -2-5775-005-DQ-4
4. FOUNDATION LOCATION PLAN .... NIM -2-5604-005-DQ-1

CONCRETE GRADE-35

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO. : C31/0606 | PROJ. NO. : PAIP00405

NOTES/REFERENCE DRAWINGS

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.
2. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH TWO COATS OF "FOSROC DEKGUARD S" WITH A DFT OF 350 MICRONS OR ANY OTHER APPROVED EQUIVALENT.

REV	DATE	APPROVED BY	DESCRIPTION	WBS NO.	PDO APPROVAL PROJ.ENG.	PDO APPROVAL SPEC.ENG.
-	-	-	-	-	-	

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

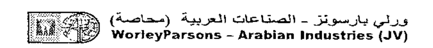
SCALE : 1:20 — CAD DRAWING

AREA : NIMR
SUB AREA : PRODUCTION STATION — NO. 05
DRWG.TYPE : CIVIL DETAILS
DESCRIPTION : STAIR FOUNDATION MK'D SF1

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	2	5775	004	DQ	3	A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\25775004_DQ.dwg-GCS-27/02/11-10:31:38



BAR BENDING SCHEDULE

JOB NO.: PAIP00238
PART ID.: PRODUCTION STATION STAIR FOUNDATION

REF. DWG NO.: NIM-2-5775-004-DQ-3

Document No.: NIM-2-5775-005-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG RL
Date: 27.02.11

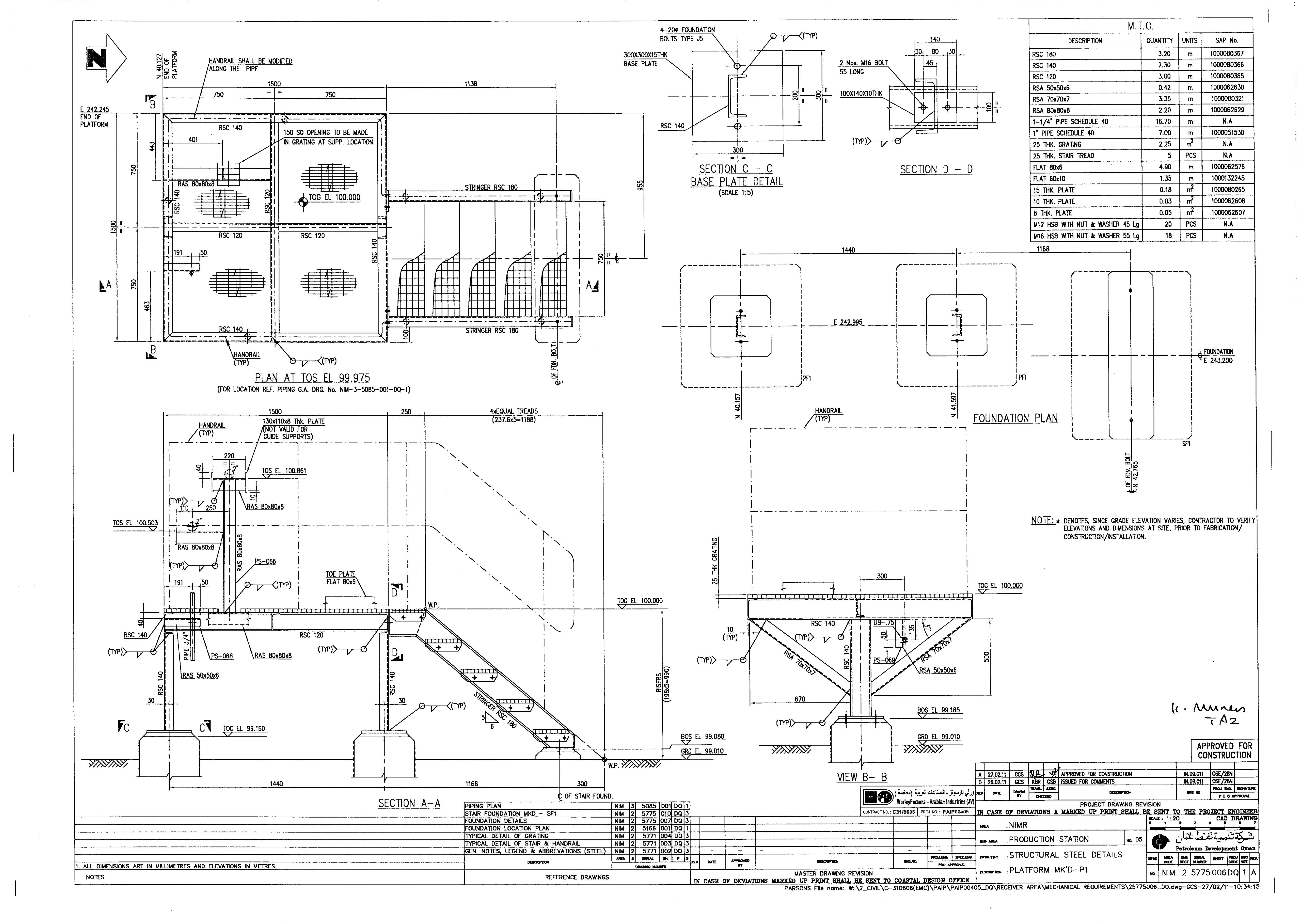
Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		28.80	15.30	22.50				
Weight (Kgs)		11.52	9.49	20.03				
Total Weight (Kgs)								41.040

K. Munus
TA2

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
STAIR	1	T10	2	6	12	1275	21	150	1000	150		
FOUNDATION	2	T12	2	10	20	1125	21	150	450	550		
	3	T8	2	9	18	1600	51	520	200			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



M.T.O.

DESCRIPTION	QUANTITY	UNITS	SAP No.
RSC 180	3.20	m	1000080367
RSC 140	7.30	m	1000080366
RSC 120	3.00	m	1000080365
RSA 50x50x6	0.42	m	1000062630
RSA 70x70x7	3.35	m	1000080321
RSA 80x80x8	2.20	m	1000062629
1-1/4" PIPE SCHEDULE 40	16.70	m	N.A
1" PIPE SCHEDULE 40	7.00	m	1000051530
25 THK. GRATING	2.25	m^2	N.A
25 THK. STAIR TREAD	5	PCS	N.A
FLAT 80x6	4.90	m	1000062576
FLAT 60x10	1.35	m	1000132245
15 THK. PLATE	0.18	m^2	1000080265
10 THK. PLATE	0.03	m^2	1000062608
8 THK. PLATE	0.05	m^2	1000062607
M12 HSB WITH NUT & WASHER 45 Lg	20	PCS	N.A
M16 HSB WITH NUT & WASHER 55 Lg	18	PCS	N.A

REV	DATE	DRAWN BY	CHECKED	DESCRIPTION		
A	27.02.11	GCS		APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N
0	26.02.11	GCS	KBR GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPING PLAN	NIM	3	5085	001	DQ	1
STAIR FOUNDATION MKD – SF1	NIM	2	5775	010	DQ	3
FOUNDATION DETAILS	NIM	2	5775	007	DQ	3
FOUNDATION LOCATION PLAN	NIM	2	5166	001	DQ	1
TYPICAL DETAIL OF GRATING	NIM	2	5771	004	DQ	3
TYPICAL DETAIL OF STAIR & HANDRAIL	NIM	2	5771	003	DQ	3
GEN. NOTES, LEGEND & ABBREVATIONS (STEEL)	NIM	2	5771	002	DQ	3

NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

WorleyParsons - Arabian Industries (JV) وورلي بارسونز - الصناعات العربية (محاصة)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

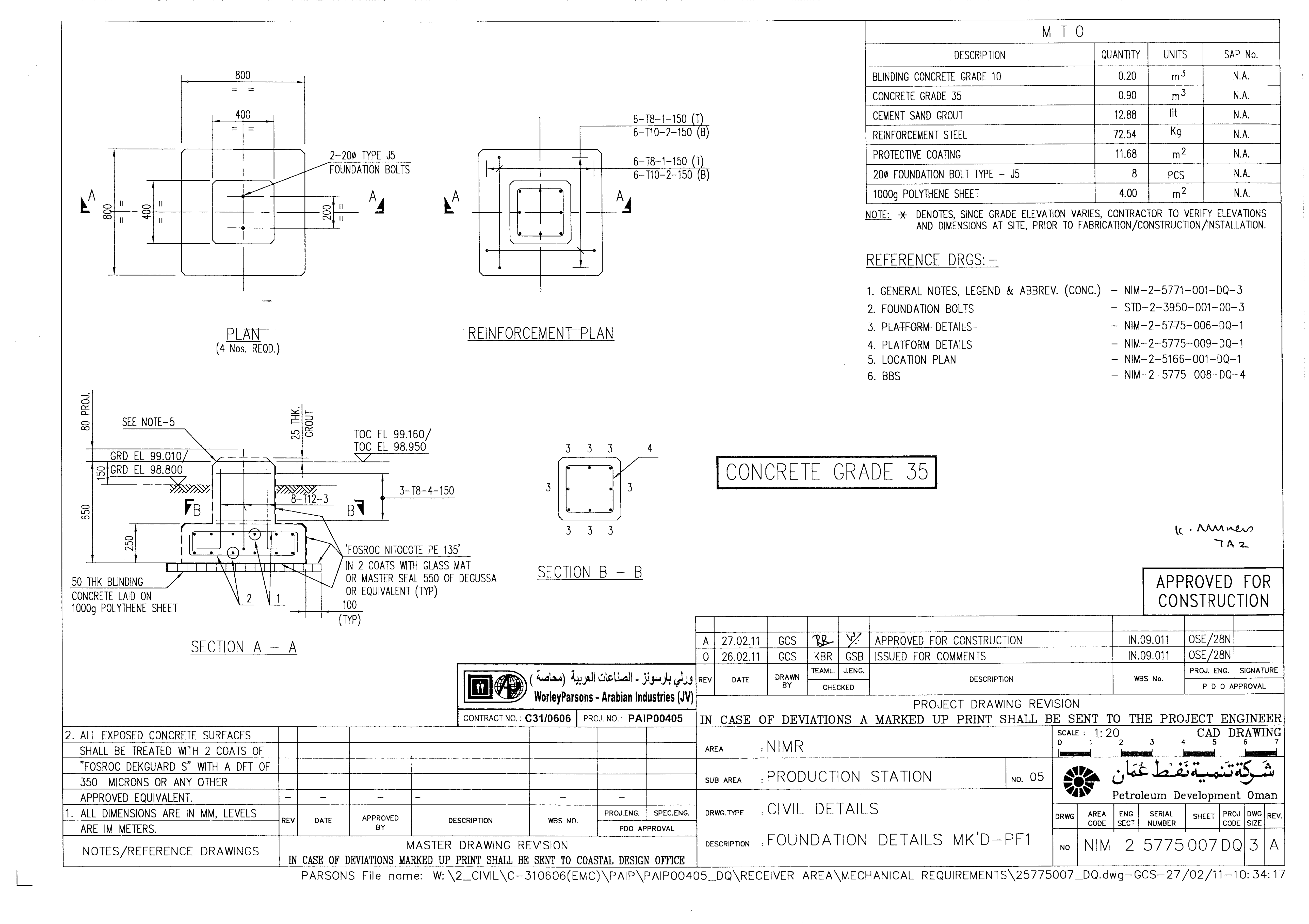
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE: 1:20 CAD DRAWING

AREA : NIMR
SUB AREA : PRODUCTION STATION No. 05
DRWG. TYPE : STRUCTURAL STEEL DETAILS
DESCRIPTION : PLATFORM MK'D–P1

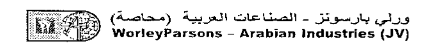
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No. NIM 2 5775 006 DQ 1 A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\MECHANICAL REQUIREMENTS\25775006_DQ.dwg–GCS–27/02/11–10:34:15



M T O			
DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE GRADE 10	0.20	m^3	N.A.
CONCRETE GRADE 35	0.90	m^3	N.A.
CEMENT SAND GROUT	12.88	lit	N.A.
REINFORCEMENT STEEL	72.54	Kg	N.A.
PROTECTIVE COATING	11.68	m^2	N.A.
20ø FOUNDATION BOLT TYPE – J5	8	PCS	N.A.
1000g POLYTHENE SHEET	4.00	m^2	N.A.



BAR BENDING SCHEDULE

JOB NO.: PAIP00238
PART ID.: NIMR SLUDGE PIT SYSTEMS
PLATFORM-P3 & P4

REF. DWG NO.: NIM-2-5775-007-DQ-3

Document No.: NIM-2-5775-008-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG RB
Date: 27.02.11

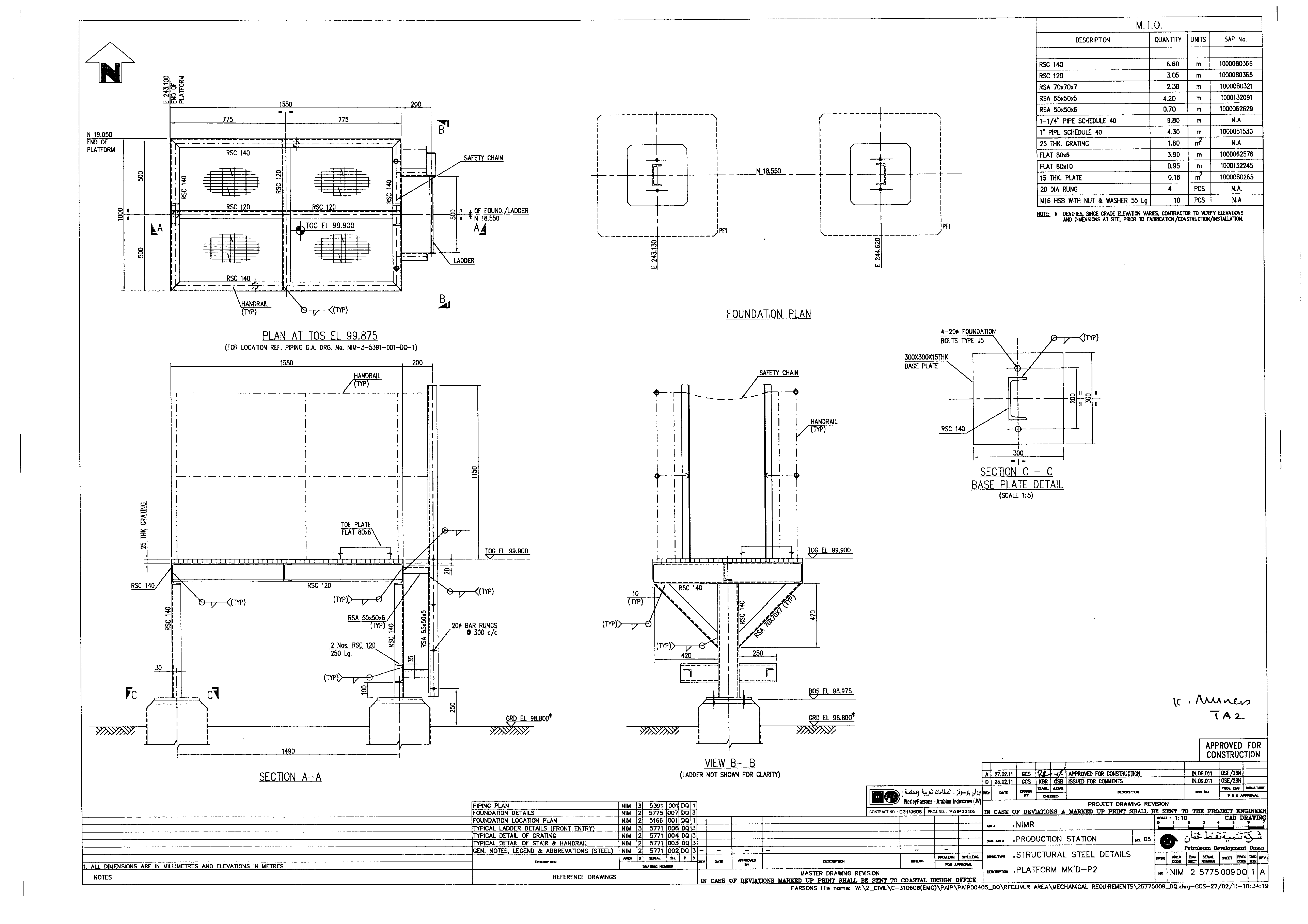
K. Muneer
TA2

Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		60.90	44.40	23.20				
Weight (Kgs)		24.36	27.53	20.65				
Total Weight (Kgs)								72.540

Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
PLATFORM	1	T8	4	12	48	925	21	125	700	125		
FDN. PF2	2	T10	4	12	48	925	21	125	700	125		
	3	T12	4	8	32	725	11	200	530			
	4	T8	4	3	12	1375	51	300	300			

This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm



DESCRIPTION	QUANTITY	UNITS	SAP No.
RSC 140	6.60	m	1000080366
RSC 120	3.05	m	1000080365
RSA 70x70x7	2.38	m	1000080321
RSA 65x50x5	4.20	m	1000132091
RSA 50x50x6	0.70	m	1000062629
1-1/4" PIPE SCHEDULE 40	9.80	m	N.A
1" PIPE SCHEDULE 40	4.30	m	1000051530
25 THK. GRATING	1.60	m^2	N.A
FLAT 80x6	3.90	m	1000062576
FLAT 60x10	0.95	m	1000132245
15 THK. PLATE	0.18	m^2	1000080265
20 DIA RUNG	4	PCS	N.A.
M16 HSB WITH NUT & WASHER 55 Lg	10	PCS	N.A

NOTE: * DENOTES, SINCE GRADE ELEVATION VARIES, CONTRACTOR TO VERIFY ELEVATIONS AND DIMENSIONS AT SITE, PRIOR TO FABRICATION/CONSTRUCTION/INSTALLATION.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAM L.	CHECKED LENG.	DESCRIPTION	WBS NO	PROJ. ENG.
A	27.02.11	GCS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N
0	26.02.11	GCS	KBR	GSB	ISSUED FOR COMMENTS	IN.09.011	OSE/28N

WorleyParsons - Arabian Industries (JV) ورلي بارسونز - الصناعات العربية (محاصة)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPING PLAN	NIM	3	5391	001	DQ	1
FOUNDATION DETAILS	NIM	2	5775	007	DQ	3
FOUNDATION LOCATION PLAN	NIM	2	5166	001	DQ	1
TYPICAL LADDER DETAILS (FRONT ENTRY)	NIM	3	5771	006	DQ	3
TYPICAL DETAIL OF GRATING	NIM	2	5771	004	DQ	3
TYPICAL DETAIL OF STAIR & HANDRAIL	NIM	2	5771	003	DQ	3
GEN. NOTES, LEGEND & ABBREVATIONS (STEEL)	NIM	2	5771	002	DQ	3

REFERENCE DRAWINGS

1. ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES.

NOTES

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

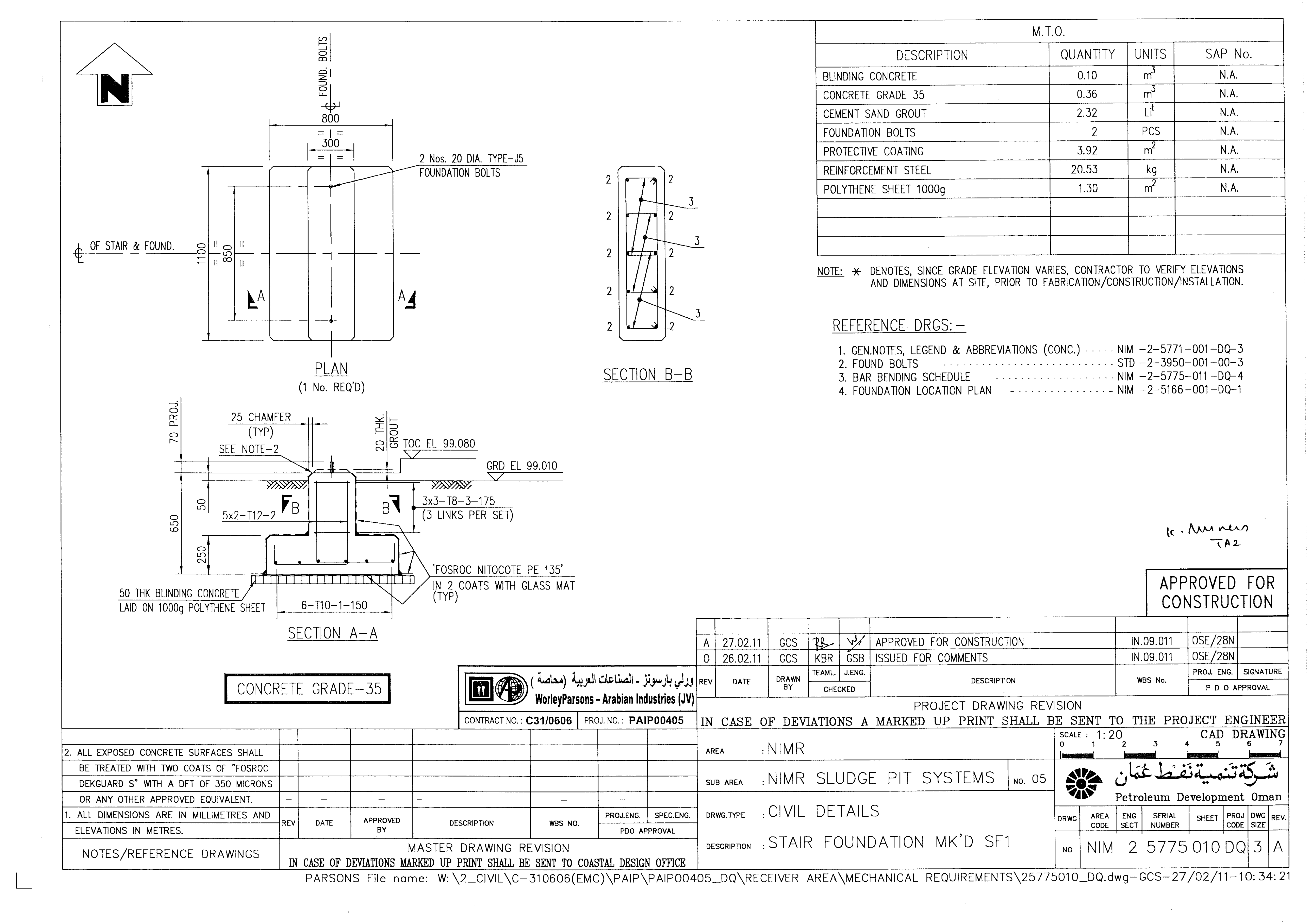
SCALE: 1:10 CAD DRAWING

AREA : NIMR
SUB AREA : PRODUCTION STATION No. 05
DRWG.TYPE : STRUCTURAL STEEL DETAILS
DESCRIPTION : PLATFORM MK'D–P2

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG No: NIM 2 5775 009 DQ 1 A

PARSONS File name: W:\2_CIVIL\C-310606(EMC)\PAIP\PAIP00405_DQ\RECEIVER AREA\MECHANICAL REQUIREMENTS\25775009_DQ.dwg-GCS-27/02/11-10:34:19



DESCRIPTION	QUANTITY	UNITS	SAP No.
BLINDING CONCRETE	0.10	m^3	N.A.
CONCRETE GRADE 35	0.36	m^3	N.A.
CEMENT SAND GROUT	2.32	Lit	N.A.
FOUNDATION BOLTS	2	PCS	N.A.
PROTECTIVE COATING	3.92	m^2	N.A.
REINFORCEMENT STEEL	20.53	kg	N.A.
POLYTHENE SHEET 1000g	1.30	m^2	N.A.



BAR BENDING SCHEDULE

JOB NO.: **PAIP00238**
PART ID.: **NIMR SLUDGE PIT SYSTEMS**
STAIR FOUNDATION

REF. DWG NO.: **NIM-2-5775-010-DQ-3**

Document No.: NIM-2-5775-011-DQ-4
Revision No.: A
Prepared by: GCS
Checked by: PNG
Date: 27.02.11

K. Mullens
TA2

Total MTO for Rebars.

Dia. Of Bar	T6	T8	T10	T12	T16	T20	T25	T32
Length of Bar (m)		14.40	7.65	11.25				
Weight (Kgs)		5.76	4.75	10.02				

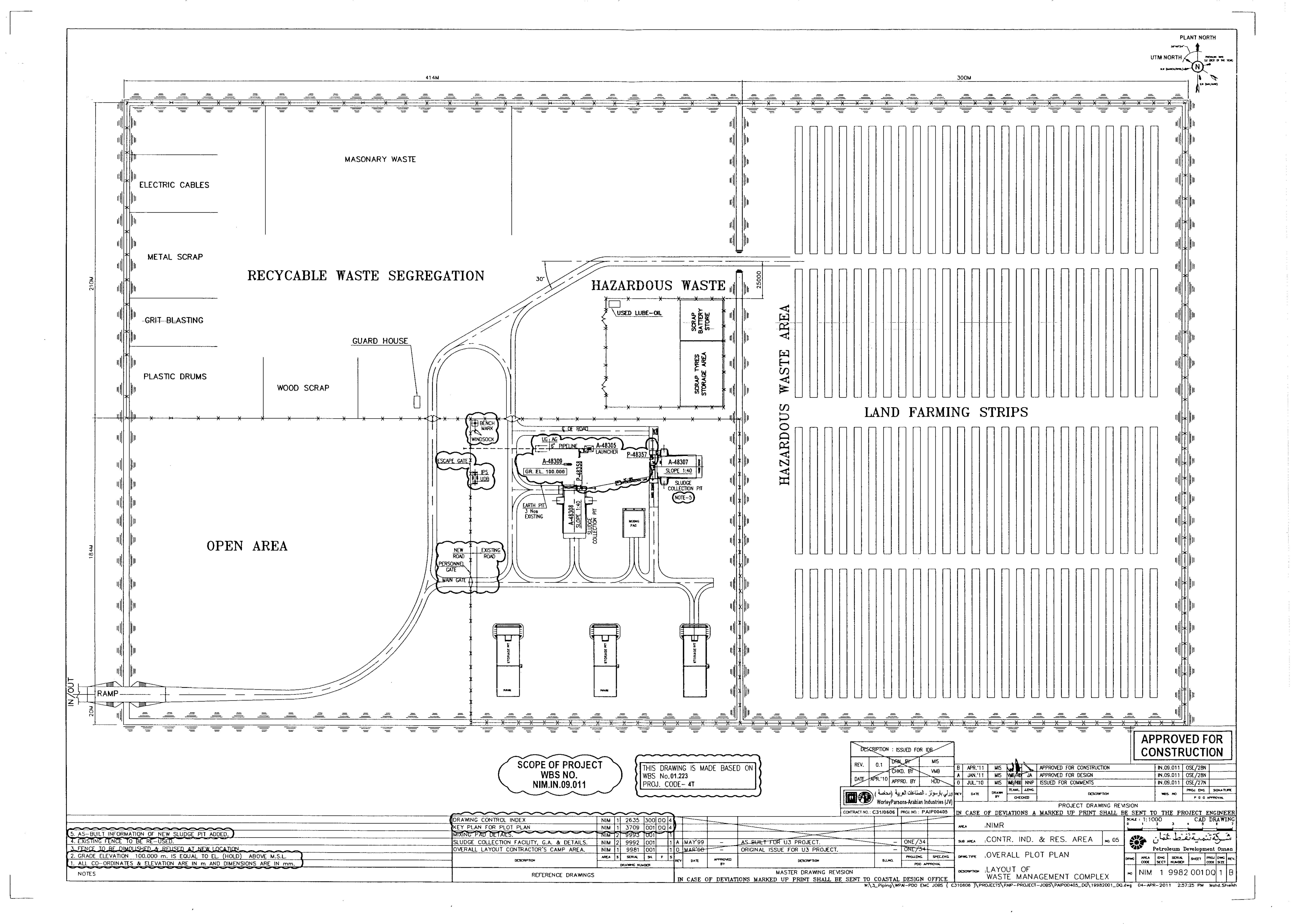
Total Weight (Kgs) 20.530

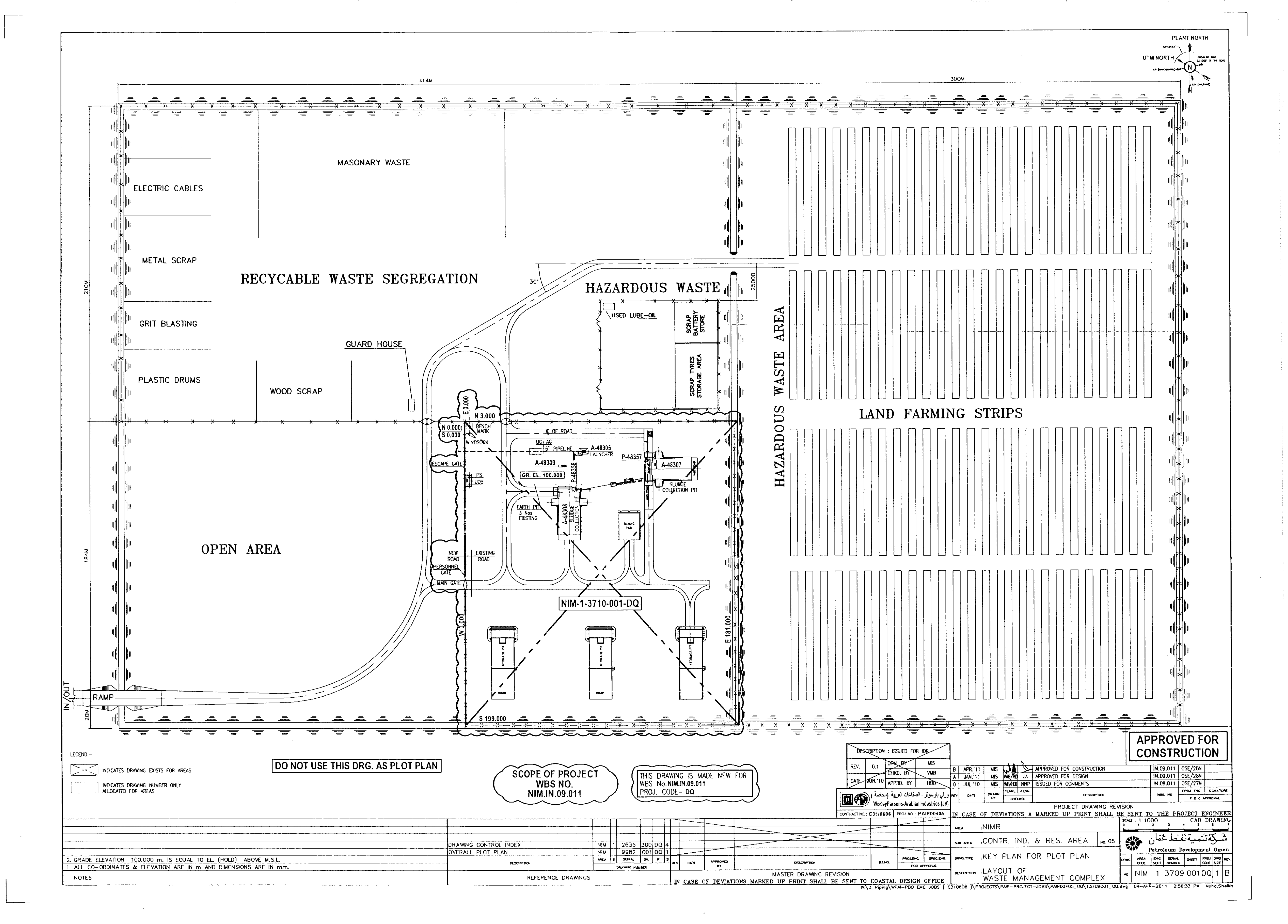
Designation	Bar Mark	Type & Size	Nos. Reqd	No. of Bars in each	Total Nos.	Length of each Bar †	Shape code	A*	B*	C*	D*	E/R*
STAIR	1	T10	1	6	6	1275	21	150	1000	150		
FOUNDATION	2	T12	1	10	10	1125	21	150	450	550		
MK'D SF1	3	T8	1	9	9	1600	51	520	200			

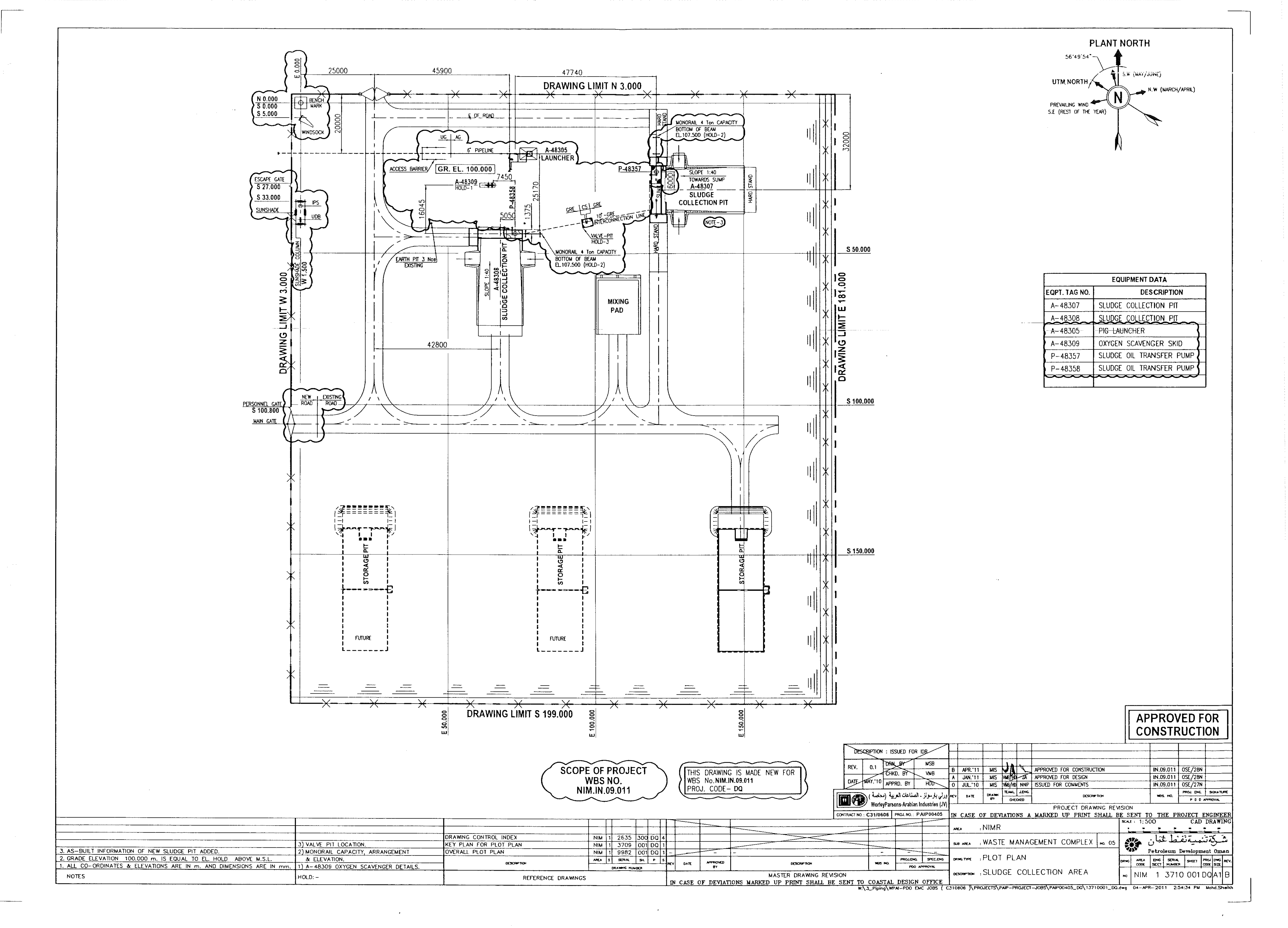
This schedule complies with BS 8666 : 2005
All dimensions are in mm
Refer to Bar shape Code drawing
* Specified in multiples of 5 mm
† Specified in multiples of 25 mm

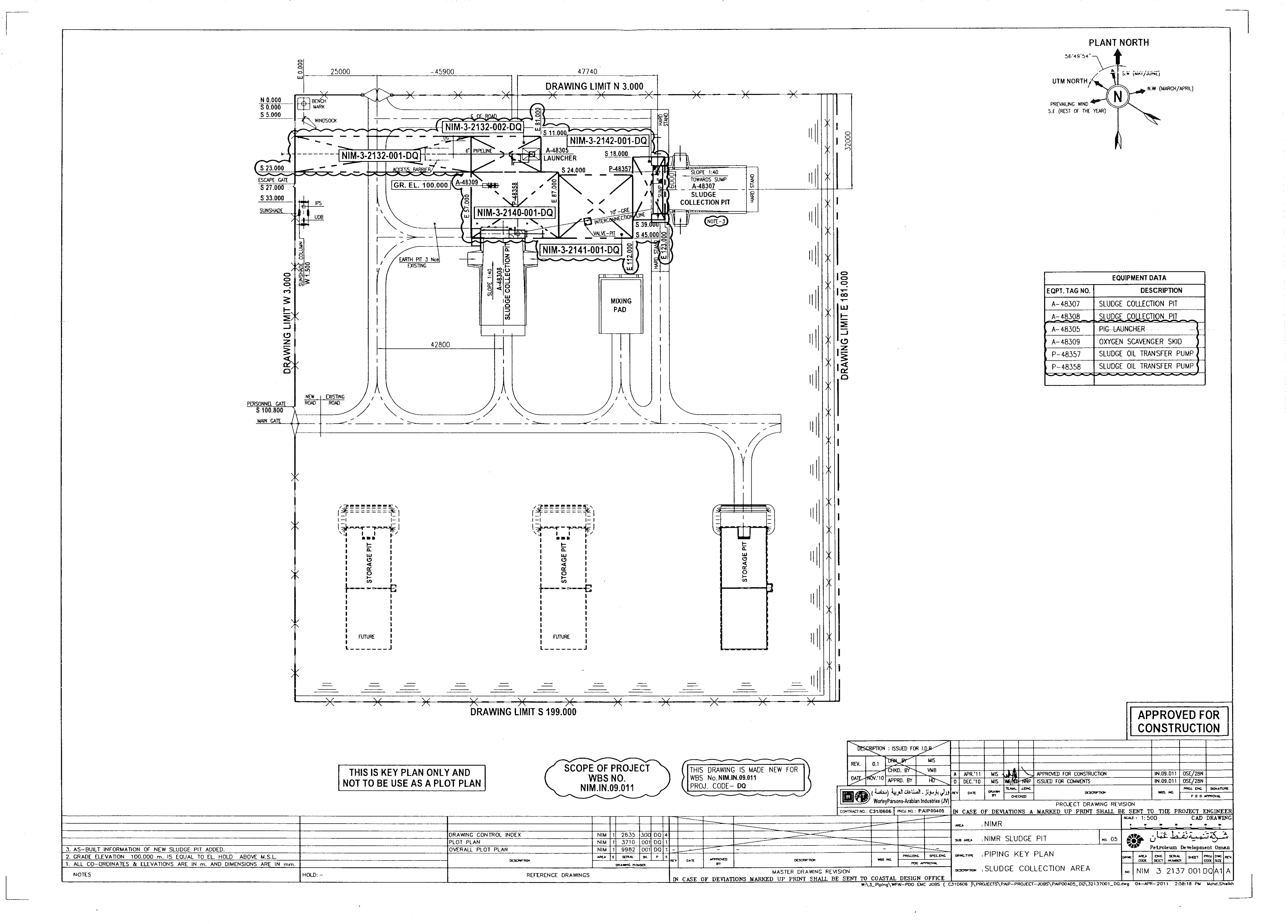
Mechanical Drawings

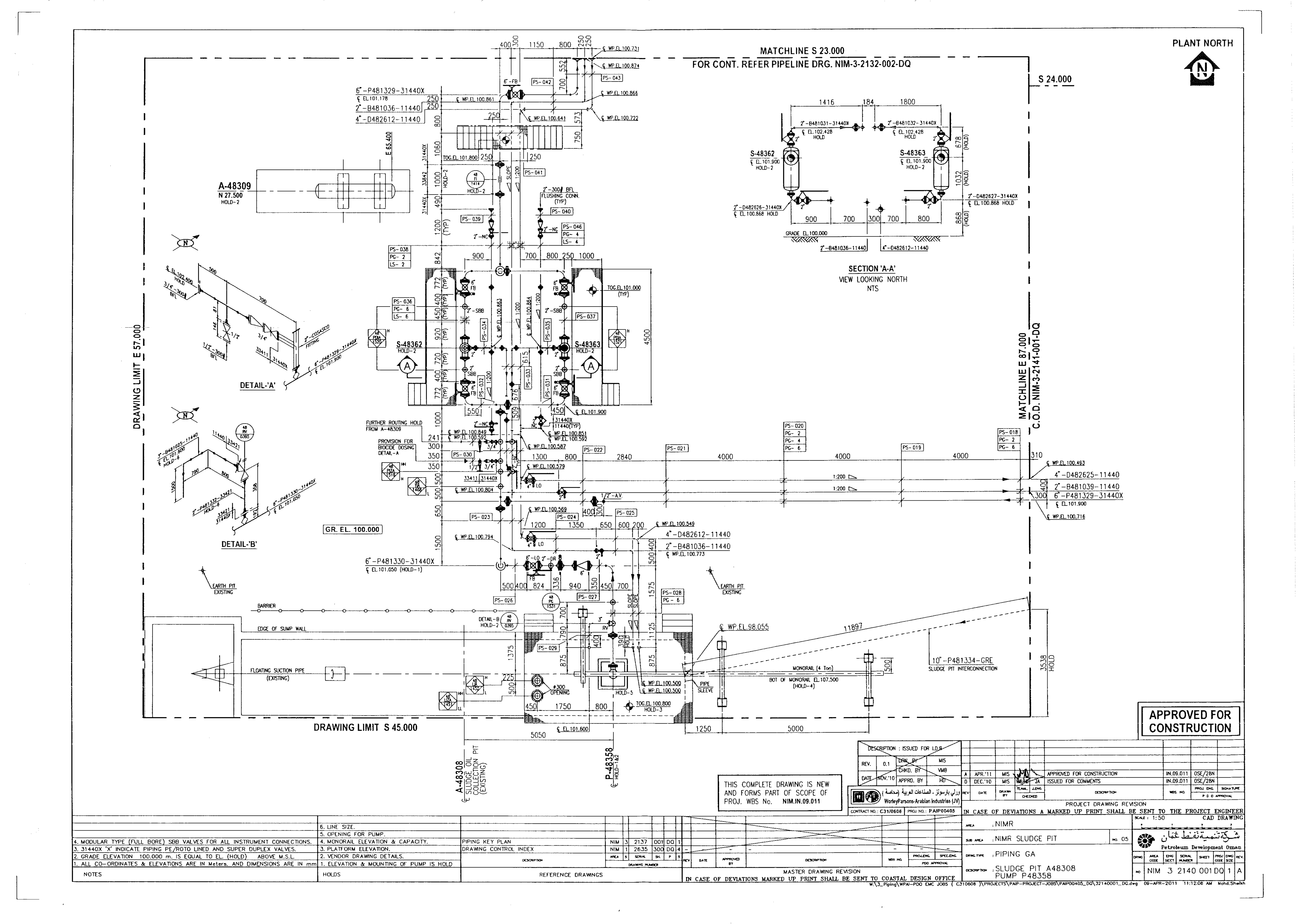
PAIP00405- Nimr Sludge Pit Up gradation.


PLANT NORTH
UTM NORTH
414M
300M
210M
184M
20M
IN/OUT
RAMP
MASONARY WASTE
ELECTRIC CABLES
METAL SCRAP
RECYCABLE WASTE SEGREGATION
GRIT BLASTING
PLASTIC DRUMS
WOOD SCRAP
GUARD HOUSE
30°
HAZARDOUS WASTE
25000
USED LUBE-OIL
SCRAP BATTERY STORE
SCRAP TYRES STORAGE AREA
HAZARDOUS WASTE AREA
LAND FARMING STRIPS
OPEN AREA
BENCH MARK
WINDSOCK
ESCAPE GATE
IPS
UDB
UG AG
6" PIPELINE
A-48305
LAUNCHER
A-48309
GR. EL. 100.000
P-48358
P-48357
A-48307
SLOPE 1:40
SLUDGE COLLECTION PIT
NOTE-5
EARTH PIT
3 Nos
EXISTING
A-48308
SLOPE 1:40
SLUDGE COLLECTION PIT
NEW ROAD
EXISTING ROAD
PERSONNEL GATE
MAIN GATE
SCOPE OF PROJECT
WBS NO.
NIM.IN.09.011
THIS DRAWING IS MADE BASED ON
WBS No.01.223
PROJ. CODE- 4T
DESCRIPTION : ISSUED FOR IDB
REV. 0.1
DRN. BY MIS
CHKD. BY VMB
DATE APR.'10
APPRD. BY HDD
وورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
APPROVED FOR CONSTRUCTION
B APR.'11 MIS APPROVED FOR CONSTRUCTION IN.09.011 OSE/28N
A JAN.'11 MIS VMB/HDD JA APPROVED FOR DESIGN IN.09.011 OSE/28N
0 JUL.'10 MIS VMB/HDD NNP ISSUED FOR COMMENTS IN.09.011 OSE/27N
REV DATE DRAWN BY TEAM L. L.ENG. CHECKED DESCRIPTION WBS. NO PROJ. ENG. SIGNATURE P D O APPROVAL
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
5. AS-BUILT INFORMATION OF NEW SLUDGE PIT ADDED.
4. EXISTING FENCE TO BE RE-USED.
3. FENCE TO BE DIMOLISHED & REUSED AT NEW LOCATION.
2. GRADE ELEVATION 100.000 m. IS EQUAL TO EL. (HOLD) ABOVE M.S.L.
1. ALL CO-ORDINATES & ELEVATION ARE IN m AND DIMENSIONS ARE IN mm.
NOTES
DRAWING CONTROL INDEX NIM 1 2635 300 DQ 4
KEY PLAN FOR PLOT PLAN NIM 1 3709 001 DQ 4
MIXING PAD DETAILS. NIM 2 9993 001 1
SLUDGE COLLECTION FACILITY, G.A. & DETAILS. NIM 2 9992 001 1 A MAY'99 - AS BUILT FOR U3 PROJECT. - ONE/34
OVERALL LAYOUT CONTRACTOR'S CAMP AREA. NIM 1 9981 001 1 0 MAR'98 - ORIGINAL ISSUE FOR U3 PROJECT. - ONE/34
DESCRIPTION AREA S SERIAL SH. P S DRAWING NUMBER
REV DATE APPROVED BY DESCRIPTION B.I.NO. PROJ.ENG. SPEC.ENG. PDO APPROVAL
REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
SCALE : 1:1000
CAD DRAWING
AREA :NIMR
SUB AREA :CONTR. IND. & RES. AREA NO. 05
DRWG TYPE :OVERALL PLOT PLAN
DESCRIPTION :LAYOUT OF WASTE MANAGEMENT COMPLEX
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO AREA CODE ENG SECT SERIAL NUMBER SHEET PROJ CODE DWG SIZE REV.
NIM 1 9982 001 DQ 1 B
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\19982001_DQ.dwg 04-APR-2011 2:57:25 PM Mohd.Sheikh


PLANT NORTH
UTM NORTH
N
414M
300M
210M
184M
20M
25000
30°
MASONARY WASTE
ELECTRIC CABLES
METAL SCRAP
RECYCABLE WASTE SEGREGATION
GRIT BLASTING
PLASTIC DRUMS
WOOD SCRAP
GUARD HOUSE
HAZARDOUS WASTE
USED LUBE-OIL
SCRAP BATTERY STORE
SCRAP TYRES STORAGE AREA
HAZARDOUS WASTE AREA
LAND FARMING STRIPS
OPEN AREA
N 3.000
E 0.000
N 0.000
S 0.000
BENCH MARK
WINDSOCK
ESCAPE GATE
IPS
UDB
NEW ROAD
EXISTING ROAD
PERSONNEL GATE
MAIN GATE
W 3.000
E 181.000
S 199.000
C OF ROAD
UG AG
6" PIPELINE
A-48305 LAUNCHER
A-48309
GR. EL. 100.000
P-48358
P-48357
A-48307
SLUDGE COLLECTION PIT
EARTH PIT 3 Nos EXISTING
A-48308 SLUDGE COLLECTION PIT
NIM-1-3710-001-DQ
IN/OUT
RAMP
LEGEND:-
INDICATES DRAWING EXISTS FOR AREAS
INDICATES DRAWING NUMBER ONLY ALLOCATED FOR AREAS
DO NOT USE THIS DRG. AS PLOT PLAN
SCOPE OF PROJECT
WBS NO.
NIM.IN.09.011
THIS DRAWING IS MADE NEW FOR
WBS No.NIM.IN.09.011
PROJ. CODE- DQ
DESCRIPTION : ISSUED FOR IDB
REV. 0.1
DATE JUN.'10
DRN. BY MIS
CHKD. BY VMB
APPRD. BY HOD
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
APPROVED FOR CONSTRUCTION
B APR.'11 MIS APPROVED FOR CONSTRUCTION IN.09.011 OSE/28N
A JAN.'11 MIS WB/HD JA APPROVED FOR DESIGN IN.09.011 OSE/28N
0 JUL.'10 MIS WB/HOD NNP ISSUED FOR COMMENTS IN.09.011 OSE/27N
REV DATE DRAWN BY TEAM L. L.ENG. CHECKED DESCRIPTION WBS. NO PROJ. ENG. SIGNATURE P D O APPROVAL
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE : 1:1000
CAD DRAWING
AREA :NIMR
SUB AREA :CONTR. IND. & RES. AREA
NO. 05
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG. TYPE :KEY PLAN FOR PLOT PLAN
DESCRIPTION :LAYOUT OF WASTE MANAGEMENT COMPLEX
DRWG AREA CODE ENG SECT SERIAL NUMBER SHEET PROJ CODE DWG SIZE REV.
NO NIM 1 3709 001 DQ 1 B
DRAWING CONTROL INDEX NIM 1 2635 300 DQ 4
OVERALL PLOT PLAN NIM 1 9982 001 DQ 1
DESCRIPTION
REFERENCE DRAWINGS
2. GRADE ELEVATION 100.000 m. IS EQUAL TO EL. (HOLD) ABOVE M.S.L.
1. ALL CO-ORDINATES & ELEVATION ARE IN m AND DIMENSIONS ARE IN mm.
NOTES
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
PROJ.ENG. SPEC.ENG.
PDO APPROVAL
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\13709001_DQ.dwg 04-APR-2011 2:56:33 PM Mohd.Sheikh


PLANT NORTH
56°49'54"
UTM NORTH
S.W (MAY/JUNE)
N.W (MARCH/APRIL)
PREVAILING WIND S.E (REST OF THE YEAR)
N
DRAWING LIMIT N 3.000
DRAWING LIMIT W 3.000
DRAWING LIMIT E 181.000
DRAWING LIMIT S 199.000
25000
45900
47740
20000
32000
42800
16045
25170
7450
5050
1375
6000
N 0.000
S 0.000
S 5.000
E 0.000
BENCH MARK
WINDSOCK
E OF ROAD
UG
AG
6" PIPELINE
A-48305
LAUNCHER
ACCESS BARRIER
GR. EL. 100.000
A-48309
HOLD-1
P-48358
P-48357
MONORAIL 4 Ton CAPACITY
BOTTOM OF BEAM
EL.107.500 (HOLD-2)
HARD STAND
SLOPE 1:40
TOWARDS SUMP
A-48307
SLUDGE COLLECTION PIT
SUMP
NOTE-3
GRE
CS
10" GRE INTERCONNECTION LINE
VALVE-PIT
HOLD-3
EARTH PIT 3 Nos EXISTING
A-48308
SLUDGE COLLECTION PIT
MIXING PAD
ESCAPE GATE
S 27.000
S 33.000
IPS
UDB
SUNSHADE
SUNSHADE COLUMN
W 1.500
PERSONNEL GATE
S 100.800
MAIN GATE
NEW ROAD
EXISTING ROAD
S 50.000
S 100.000
S 150.000
STORAGE PIT
FUTURE
STORAGE PIT
FUTURE
STORAGE PIT
E 50.000
E 100.000
E 150.000
EQUIPMENT DATA
EQPT. TAG NO. | DESCRIPTION
A-48307 | SLUDGE COLLECTION PIT
A-48308 | SLUDGE COLLECTION PIT
A-48305 | PIG LAUNCHER
A-48309 | OXYGEN SCAVENGER SKID
P-48357 | SLUDGE OIL TRANSFER PUMP
P-48358 | SLUDGE OIL TRANSFER PUMP
APPROVED FOR CONSTRUCTION
SCOPE OF PROJECT
WBS NO.
NIM.IN.09.011
THIS DRAWING IS MADE NEW FOR
WBS No.NIM.IN.09.011
PROJ. CODE- DQ
DESCRIPTION : ISSUED FOR IDR
REV. 0.1
DATE MAY.'10
DRN. BY MSB
CHKD. BY VWB
APPRD. BY HOD
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ.NO.: PAIP00405
B | APR.'11 | MIS | APPROVED FOR CONSTRUCTION | IN.09.011 | OSE/28N
A | JAN.'11 | MIS | APPROVED FOR DESIGN | IN.09.011 | OSE/28N
0 | JUL.'10 | MIS | ISSUED FOR COMMENTS | IN.09.011 | OSE/27N
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE: 1:500
CAD DRAWING
AREA : NIMR
SUB AREA : WASTE MANAGEMENT COMPLEX
NO. 05
DRWG TYPE : PLOT PLAN
DESCRIPTION : SLUDGE COLLECTION AREA
Petroleum Development Oman
NIM 1 3710 001 DQ A1 B
DRAWING CONTROL INDEX | NIM | 1 | 2635 | 300 | DQ | 4
KEY PLAN FOR PLOT PLAN | NIM | 1 | 3709 | 001 | DQ | 1
OVERALL PLOT PLAN | NIM | 1 | 9982 | 001 | DQ | 1
REFERENCE DRAWINGS
3) VALVE PIT LOCATION.
2) MONORAIL CAPACITY, ARRANGEMENT & ELEVATION.
1) A-48309 OXYGEN SCAVENGER DETAILS.
HOLD:-
3. AS-BUILT INFORMATION OF NEW SLUDGE PIT ADDED.
2. GRADE ELEVATION 100.000 m. IS EQUAL TO EL. HOLD ABOVE M.S.L.
1. ALL CO-ORDINATES & ELEVATIONS ARE IN m. AND DIMENSIONS ARE IN mm.
NOTES
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
04-APR-2011 2:54:34 PM


PLANT NORTH
UTM NORTH
S.W (MAY/JUNE)
N.W (MARCH/APRIL)
PREVAILING WIND S.E (REST OF THE YEAR)
N
DRAWING LIMIT N 3.000
DRAWING LIMIT W 3.000
DRAWING LIMIT E 181.000
DRAWING LIMIT S 199.000
25000
45900
47740
32000
42800
NIM-3-2132-002-DQ
NIM-3-2132-001-DQ
NIM-3-2142-001-DQ
NIM-3-2140-001-DQ
NIM-3-2141-001-DQ
A-48305 LAUNCHER
A-48309
P-48357
P-48358
GR. EL. 100.000
SLOPE 1:40 TOWARDS SUMP A-48307 SLUDGE COLLECTION PIT
SLOPE 1:40 A-48308 SLUDGE COLLECTION PIT
MIXING PAD
EARTH PIT 3 Nos EXISTING
VALVE-PIT
10"-GRE INTERCONNECTION LINE
6" PIPELINE
ACCESS BARRIER
HARD STAND
SUMP
NOTE-3
BENCH MARK
WINDSOCK
ESCAPE GATE
SUNSHADE
IPS
UDB
SUNSHADE COLUMN W 1.500
PERSONNEL GATE S 100.800
MAIN GATE
NEW ROAD
EXISTING ROAD
N 0.000
S 0.000
S 5.000
S 11.000
S 18.000
S 23.000
S 24.000
S 27.000
S 33.000
S 39.000
S 45.000
E 0.000
E 57.000
E 81.000
E 87.000
E 112.000
E 123.000
STORAGE PIT
FUTURE
EQUIPMENT DATA
EQPT. TAG NO. | DESCRIPTION
A-48307 | SLUDGE COLLECTION PIT
A-48308 | SLUDGE COLLECTION PIT
A-48305 | PIG LAUNCHER
A-48309 | OXYGEN SCAVENGER SKID
P-48357 | SLUDGE OIL TRANSFER PUMP
P-48358 | SLUDGE OIL TRANSFER PUMP
APPROVED FOR CONSTRUCTION
THIS IS KEY PLAN ONLY AND NOT TO BE USE AS A PLOT PLAN
SCOPE OF PROJECT WBS NO. NIM.IN.09.011
THIS DRAWING IS MADE NEW FOR WBS No. NIM.IN.09.011 PROJ. CODE- DQ
DESCRIPTION : ISSUED FOR I.D.R
REV. 0.1 DRN. BY MIS
CHKD. BY VMB
DATE NOV.'10 APPRO. BY HU
A APR.'11 MIS APPROVED FOR CONSTRUCTION IN.09.011 OSE/28N
0 DEC.'10 MIS ISSUED FOR COMMENTS IN.09.011 OSE/28N
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ NO.: PAIP00405
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE: 1:500 CAD DRAWING
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
DRWG.TYPE : PIPING KEY PLAN
DESCRIPTION : SLUDGE COLLECTION AREA
NO. NIM 3 2137 001 DQ A1 A
Petroleum Development Oman
DRAWING CONTROL INDEX NIM 1 2635 300 DQ 4
PLOT PLAN NIM 1 3710 001 DQ 1
OVERALL PLOT PLAN NIM 1 9982 001 DQ 1
3. AS-BUILT INFORMATION OF NEW SLUDGE PIT ADDED.
2. GRADE ELEVATION 100.000 m. IS EQUAL TO EL. HOLD ABOVE M.S.L.
1. ALL CO-ORDINATES & ELEVATIONS ARE IN m. AND DIMENSIONS ARE IN mm.
NOTES
HOLD:-
REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE



PLANT NORTH
MATCHLINE S 23.000
FOR CONT. REFER PIPELINE DRG. NIM-3-2132-002-DQ
S 24.000
6"-P481329-31440X
2"-B481036-11440
4"-D482612-11440
A-48309
N 27.500
HOLD-2
E 65.400
S-48362
HOLD-2
S-48363
HOLD-2
SECTION 'A-A'
VIEW LOOKING NORTH
NTS
GRADE EL 100.000
2"-B481036-11440
4"-D482612-11440
DETAIL-'A'
DETAIL-'B'
DRAWING LIMIT E 57.000
MATCHLINE E 87.000
C.O.D. NIM-3-2141-001-DQ
GR. EL. 100.000
4"-D482625-11440
2"-B481039-11440
6"-P481329-31440X
FURTHER ROUTING HOLD FROM A-48309
PROVISION FOR BIOCIDE DOSING DETAIL-A
6"-P481330-31440X
4"-D482612-11440
2"-B481036-11440
EARTH PIT EXISTING
BARRIER
EDGE OF SUMP WALL
FLOATING SUCTION PIPE (EXISTING)
MONORAIL (4 Ton)
BOT OF MONORAIL EL 107.500 (HOLD-4)
PIPE SLEEVE
10"-P481334-GRE
SLUDGE PIT INTERCONNECTION
DRAWING LIMIT S 45.000
A-48308
SLUDGE OIL COLLECTION PIT (EXISTING)
P-48358
APPROVED FOR CONSTRUCTION
THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJ. WBS No. NIM.IN.09.011
WorleyParsons-Arabian Industries (JV)
A APR.'11 APPROVED FOR CONSTRUCTION
0 DEC.'10 ISSUED FOR COMMENTS
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE: 1:50
CAD DRAWING
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
DRWG TYPE : PIPING GA
DESCRIPTION : SLUDGE PIT A48308 PUMP P48358
Petroleum Development Oman
شركة تنمية نفط عمان
NIM 3 2140 001 DQ 1 A
NOTES
1. ALL CO-ORDINATES & ELEVATIONS ARE IN Meters, AND DIMENSIONS ARE IN mm
2. GRADE ELEVATION 100.000 m. IS EQUAL TO EL. (HOLD) ABOVE M.S.L.
3. 31440X "X" INDICATE PIPING PE/ROTO LINED AND SUPER DUPLEX VALVES.
4. MODULAR TYPE (FULL BORE) SBB VALVES FOR ALL INSTRUMENT CONNECTIONS.
HOLDS
1. ELEVATION & MOUNTING OF PUMP IS HOLD
2. VENDOR DRAWING DETAILS.
3. PLATFORM ELEVATION.
4. MONORAIL ELEVATION & CAPACITY.
5. OPENING FOR PUMP.
6. LINE SIZE.
REFERENCE DRAWINGS
PIPING KEY PLAN NIM 3 2137 001 DQ
DRAWING CONTROL INDEX NIM 1 2635 300 DQ
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

PLANT NORTH

DRAWING LIMIT S 24.000

MATCHLINE E 87.000
C.O.D. NIM-3-2140-001-DQ

MATCHLINE E 112.000
C.O.D. NIM-3-2142-001-DQ

GR. EL. 100.000

4"-D482625-11440
2"-B481039-11440
6"-P481329-31440X

10"-P481334-GRE
SLUDGE PIT INTERCONNECTION

BOTTOM OF PIT EL.97.000(HOLD-2)

2"-150# BFL(TYP)

℄ EL.100.500 (TYP)

S 39.000

DRAWING LIMIT

DRAWING LIMIT S 45.000

APPROVED FOR CONSTRUCTION

THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJ. WBS No. NIM.IN.09.011

NOTES	HOLDS
4. MODULAR TYPE (FULL BORE) SBB VALVES FOR ALL INSTRUMENT CONNECTIONS.	
3. 31440X 'X' INDICATE PIPING PE/ROTO LINED AND SUPER DUPLEX VALVES.	2. VALVE PIT LOCATION, ELEVATION & DIMENSION.
2. GRADE ELEVATION 100.000 m. IS EQUAL TO EL. (HOLD) ABOVE M.S.L.	1. ELEVATION IS HOLD FOR PUMP VENDOR
1. ALL CO-ORDINATES & ELEVATIONS ARE IN MTRS. AND DIMENSIONS ARE IN mm.	DETAILS.

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPING KEY PLAN	NIM	3	2137	001	DQ	1
DRAWING CONTROL INDEX	NIM	1	2635	300	DQ	4

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

DESCRIPTION : ISSUED FOR I.D.R — REV. 0.1 — DATE NOV.'10 — DRN. BY MIS — CHKD. BY VMB — APPRD. BY HD

WorleyParsons-Arabian Industries (JV) — وورلي بارسونز - الصناعات العربية (محاصة)

CONTRACT NO.: C31/0606 — PROJ. NO.: PAIP00405

REV	DATE	DRAWN BY	TEAM L.	L.ENG.	DESCRIPTION	WBS. NO.	PROJ. ENG.	SIGNATURE
A	APR.'11	MIS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	DEC.'10	MIS	WB/HD	JA	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE: 1:50 — CAD DRAWING

AREA: NIMR
SUB AREA: WASTE MANAGEMENT COMPLEX — NO. 05
DRWG TYPE: PIPING GA
DESCRIPTION: SLUDGE PIT INTERCONNECTION

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	3	2141	001	DQ	1	A

W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\32141001_DQ.dwg 09-APR-2011 11:13:57 AM Mohd.Shaikh

PLANT NORTH



DRAWING LIMIT S 18.000

DRAWING LIMIT

S 24.000

MATCHLINE E 112.000
C.O.D. NIM-3-2141-001-DQ

DRAWING LIMIT E 123.000

DRAWING LIMIT S 39.000

MONORAIL 4 Ton
BOT OF MONORAIL
EL.107.500
(HOLD-2)

4"-D482625-11440
℄ WP.EL.100.250

℄ WP.EL.100.275

6"-P481329-31440X
℄ EL.101.050 (HOLD-1)

DETAIL-A
HOLD-4

HOLD-3

P-48357
HOLD-1&4

℄ EL.101.500

℄ WP.EL.100.265

℄ WP.EL 100.500

℄ WP.EL 100.489(T)

PS-001 PS-002 LS-6 PS-003 PS-004 PS-005 PS-044 PS-045 PS-047

2"-DR

6" FB

2"-NC

PURGE CONN.
℄ EL.101.500

℄ WP.EL.100.327

4"-D482625-11440
2"-B481039-11440
6"-P481329-31440X
℄ EL.101.900

℄ WP.EL.100.550

1/2"-A.V.

℄ WP.EL.100.525

℄ WP.EL.100.302

HOLD

ø300 OPENING

TOG.EL.100.800
(HOLD-1)

A-48307
SLUDGE OIL COLLECTION
PIT (EXISTING)

GR. EL. 100.000

BARRIER

EDGE OF SUMP WALL

PIPE SLEEVE

FLOATING SUCTION PIPE (EXISTING)

℄ WP.EL.98.054

1241 HOLD

7232

10"-P481334-GRE
SLUDGE PIT INTERCONNECTION

2151 HOLD

HOLD-4

11440 | 33421

7"-P481331-33421
HOLD-5

3"-B481024-11440
℄ EL.101.600
HOLD-5

6"-P481329-31440X
℄ EL.101.050

DETAIL-'A'

APPROVED FOR CONSTRUCTION

THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJ. WBS No. NIM.IN.09.011

DESCRIPTION : ISSUED FOR I.D.B			
REV.	0.1	DRN. BY	MIS
		CHKD. BY	VMB
DATE	NOV.'10	APPRD. BY	HD

ورلي بارسونز - الصناعات العربية (محاصة) WorleyParsons-Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

REV	DATE	DRAWN BY	CHECKED TEAM L.	CHECKED L.ENG.	DESCRIPTION	WBS. NO.	PROJ. ENG.	SIGNATURE
A	APR.'11	MIS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	DEC.'10	MIS	VMB/HD	JA	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

NOTES	HOLDS
	5. LINE SIZE.
4. MODULAR TYPE (FULL BORE) SBB VALVES FOR ALL INSTRUMENT CONNECTIONS	4. VENDOR DRAWING DETAILS.
3. 31440X 'X' INDICATE PIPING PE/ROTO LINED AND SUPER DUPLEX VALVES.	3. OPENING FOR PUMP.
2. GRADE ELEVATION 100.000 m. IS EQUAL TO EL. (HOLD) ABOVE M.S.L.	2. MONORAIL ELEVATION & CAPACITY.
1. ALL CO-ORDINATES & ELEVATIONS ARE IN MTRS. AND DIMENSIONS ARE IN mm.	1. ELEVATION & MOUNTING OF PUMP IS HOLD.

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
PIPING KEY PLAN	NIM	3	2137	001	DQ	1
DRAWING CONTROL INDEX	NIM	1	2635	300	DQ	4

REV	DATE	APPROVED BY	DESCRIPTION	WBS NO.	PROJ.ENG.	SPEC.ENG.

PDO APPROVAL

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

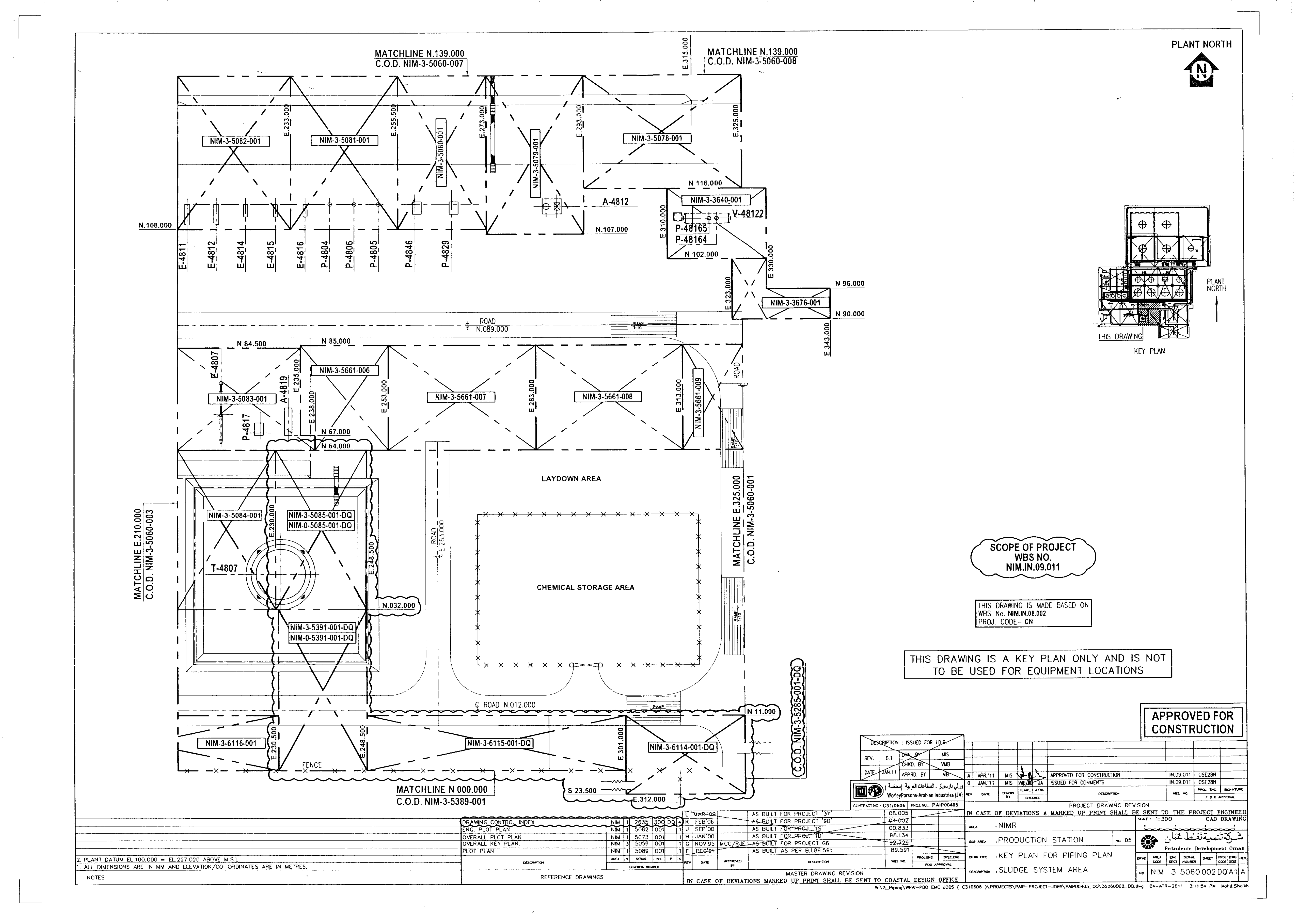
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT — NO. 05
DRWG TYPE : PIPING GA
DESCRIPTION : SLUDGE PIT A48307 PUMP P48357

SCALE : 1:50 — CAD DRAWING

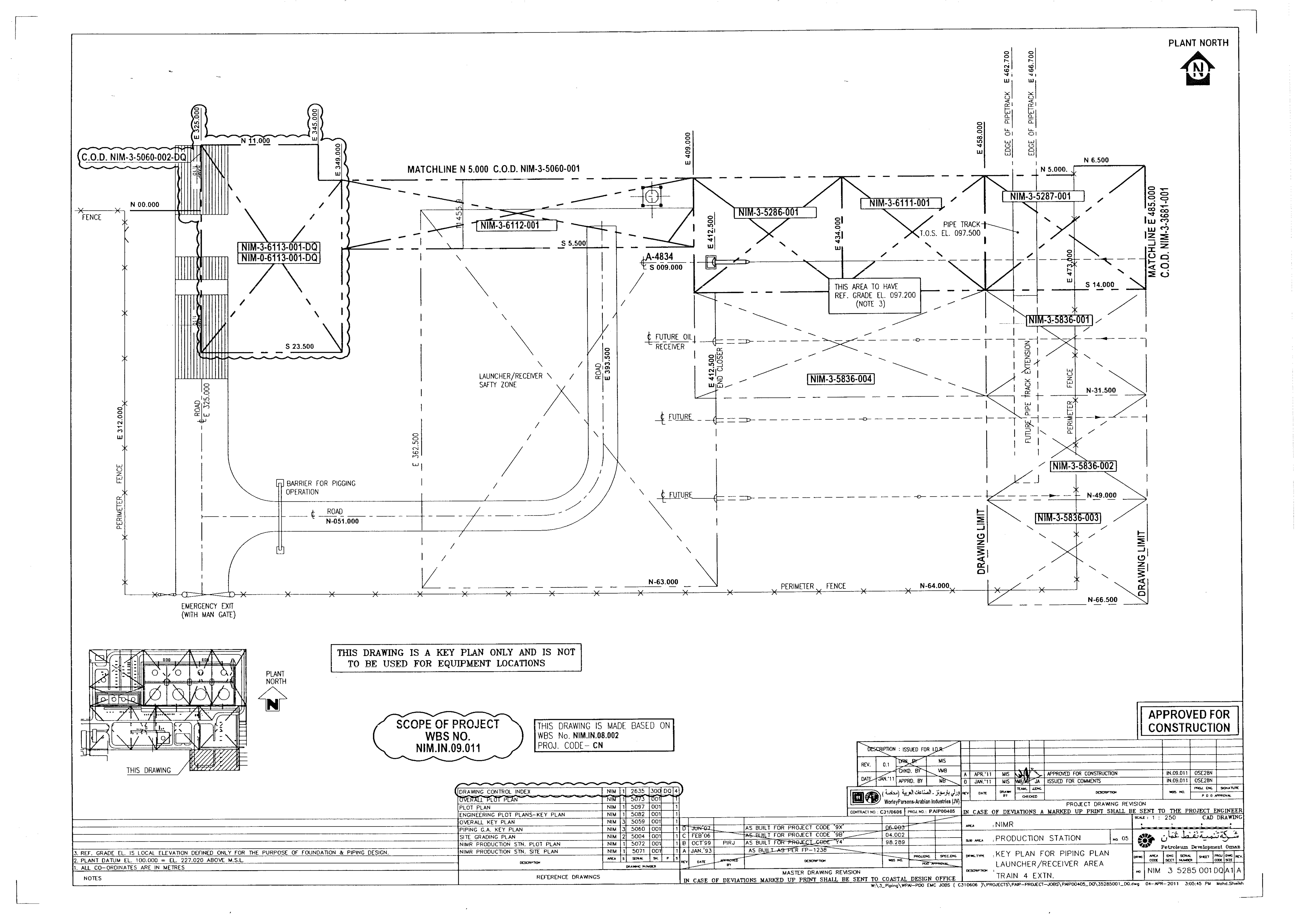
شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	3	2142	001	DQ	1	A

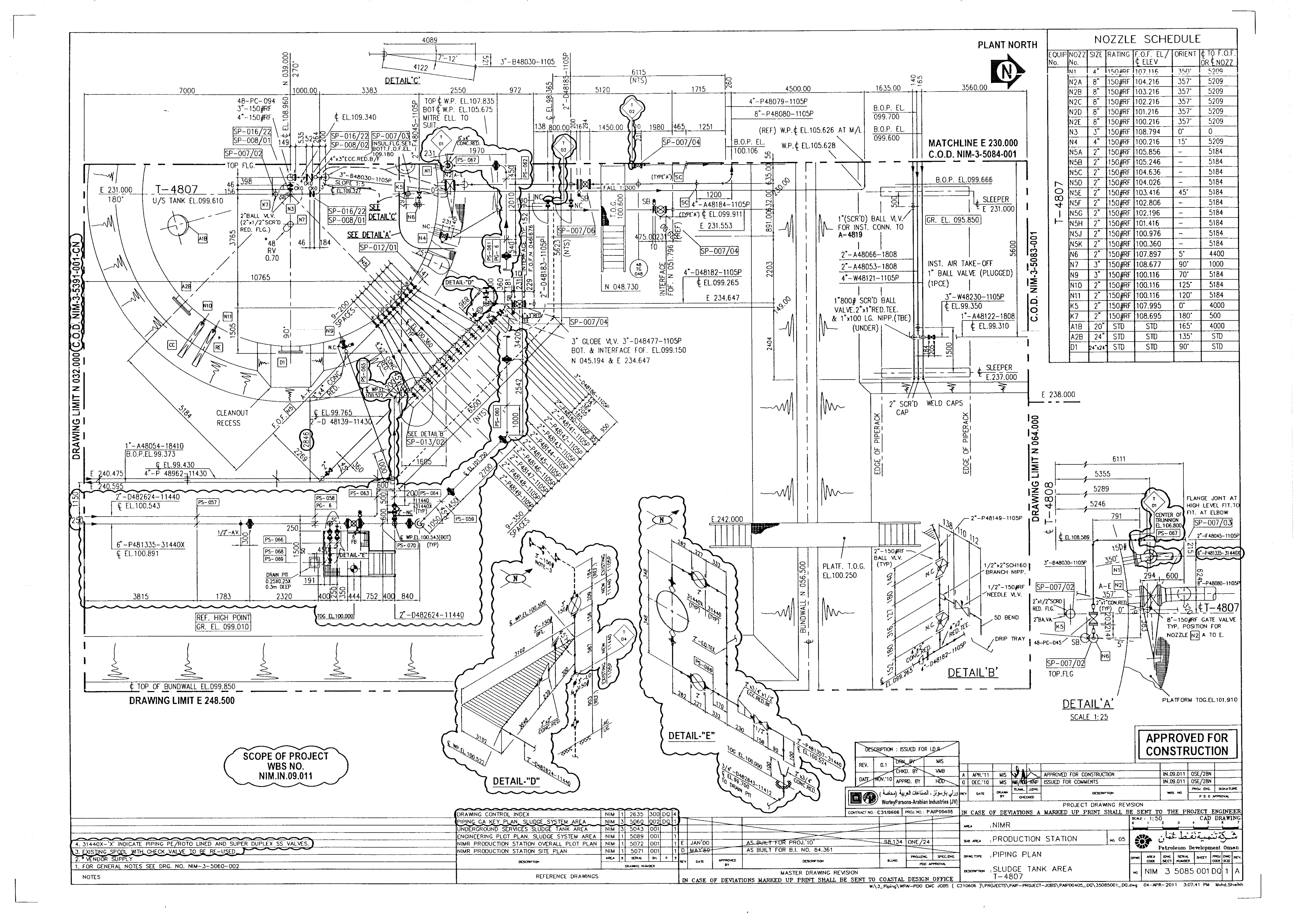
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\32142001_DQ.dwg 09-APR-2011 11:26:19 AM Mohd.Shaikh



MATCHLINE N.139.000
C.O.D. NIM-3-5060-007
MATCHLINE N.139.000
C.O.D. NIM-3-5060-008
PLANT NORTH
NIM-3-5082-001
NIM-3-5081-001
NIM-3-5080-001
NIM-3-5079-001
NIM-3-5078-001
NIM-3-3640-001
V-48122
P-48165
P-48164
NIM-3-3676-001
A-4812
N.108.000
N.107.000
N 116.000
N 102.000
N 96.000
N 90.000
E-4811
E-4812
E-4814
E-4815
E-4816
P-4804
P-4806
P-4805
P-4846
P-4829
ROAD
N.089.000
N 84.500
N 85.000
E-4807
NIM-3-5661-006
NIM-3-5083-001
A-4819
P-4817
NIM-3-5661-007
NIM-3-5661-008
NIM-3-5661-009
N 67.000
N 64.000
LAYDOWN AREA
CHEMICAL STORAGE AREA
MATCHLINE E.210.000
C.O.D. NIM-3-5060-003
MATCHLINE E.325.000
C.O.D. NIM-3-5060-001
NIM-3-5084-001
NIM-3-5085-001-DQ
NIM-0-5085-001-DQ
T-4807
N.032.000
NIM-3-5391-001-DQ
NIM-0-5391-001-DQ
ROAD N.012.000
N 11.000
NIM-3-6116-001
NIM-3-6115-001-DQ
NIM-3-6114-001-DQ
FENCE
S 23.500
E.312.000
MATCHLINE N 000.000
C.O.D. NIM-3-5389-001
C.O.D. NIM-3-5285-001-DQ
THIS DRAWING
KEY PLAN
SCOPE OF PROJECT
WBS NO.
NIM.IN.09.011
THIS DRAWING IS MADE BASED ON
WBS No. NIM.IN.08.002
PROJ. CODE- CN
THIS DRAWING IS A KEY PLAN ONLY AND IS NOT TO BE USED FOR EQUIPMENT LOCATIONS
APPROVED FOR CONSTRUCTION
DESCRIPTION : ISSUED FOR I.D.B.
REV. 0.1 DRN. BY MIS
CHKD. BY VMB
DATE JAN.11 APPRD. BY MB
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405
A APR.'11 MIS APPROVED FOR CONSTRUCTION IN.09.011 OSE28N
0 JAN.'11 MIS VMB JA ISSUED FOR COMMENTS IN.09.011 OSE28N
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
L MAR.'09 AS BUILT FOR PROJECT '3Y' 08.005
K FEB'06 AS BUILT FOR PROJECT '9B' 04.002
J SEP'00 AS BUILT FOR PROJ. '1S' 00.833
H JAN'00 AS BUILT FOR PROJ. '1D' 98.134
G NOV'95 MCC/RJE AS BUILT FOR PROJECT G6 92.729
F DEC'91 AS BUILT AS PER B.I.89.591 89.591
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
DRAWING CONTROL INDEX NIM 1 2635 300 DQ 4
ENG. PLOT PLAN NIM 1 5082 001 1
OVERALL PLOT PLAN NIM 1 5073 001 1
OVERALL KEY PLAN. NIM 3 5059 001 1
PLOT PLAN NIM 1 5089 001 1
REFERENCE DRAWINGS
2. PLANT DATUM EL.100.000 = EL.227.020 ABOVE M.S.L.
1. ALL DIMENSIONS ARE IN MM AND ELEVATION/CO-ORDINATES ARE IN METRES.
NOTES
SCALE : 1:300 CAD DRAWING
AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG. TYPE : KEY PLAN FOR PIPING PLAN
DESCRIPTION : SLUDGE SYSTEM AREA
Petroleum Development Oman
NIM 3 5060 002 DQ A1 A
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\35060002_DQ.dwg 04-APR-2011 3:11:54 PM Mohd.Sheikh



PLANT NORTH
C.O.D. NIM-3-5060-002-DQ
E 325.000
E 345.000
N 11.000
E 349.000
MATCHLINE N 5.000 C.O.D. NIM-3-5060-001
E 409.000
E 458.000
EDGE OF PIPETRACK E 462.700
EDGE OF PIPETRACK E 466.700
N 6.500
N 5.000
MATCHLINE E 485.000
C.O.D. NIM-3-3681-001
FENCE
N 00.000
NIM-3-6113-001-DQ
NIM-0-6113-001-DQ
NIM-3-6112-001
S 5.500
A-4834
S 009.000
E 412.500
NIM-3-5286-001
E 434.000
NIM-3-6111-001
NIM-3-5287-001
PIPE TRACK
T.O.S. EL. 097.500
E 473.000
S 14.000
THIS AREA TO HAVE
REF. GRADE EL. 097.200
(NOTE 3)
S 23.500
NIM-3-5836-001
FUTURE OIL
RECEIVER
E 412.500
END CLOSER
LAUNCHER/RECEIVER
SAFTY ZONE
ROAD
E 393.500
NIM-3-5836-004
FUTURE PIPE TRACK EXTENSION
PERIMETER FENCE
N-31.500
E 312.000
ROAD
E 325.000
FUTURE
E 362.500
NIM-3-5836-002
BARRIER FOR PIGGING
OPERATION
FUTURE
N-49.000
ROAD
N-051.000
NIM-3-5836-003
DRAWING LIMIT
DRAWING LIMIT
N-63.000
PERIMETER FENCE
N-64.000
N-66.500
EMERGENCY EXIT
(WITH MAN GATE)
THIS DRAWING IS A KEY PLAN ONLY AND IS NOT
TO BE USED FOR EQUIPMENT LOCATIONS
PLANT
NORTH
THIS DRAWING
SCOPE OF PROJECT
WBS NO.
NIM.IN.09.011
THIS DRAWING IS MADE BASED ON
WBS No. NIM.IN.08.002
PROJ. CODE- CN
APPROVED FOR
CONSTRUCTION
DESCRIPTION : ISSUED FOR I.D.R.
REV. 0.1 DRN. BY MIS
CHKD. BY VWB
DATE JAN.'11 APPRD. BY MB
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405
A APR.'11 MIS APPROVED FOR CONSTRUCTION IN.09.011 OSE28N
0 JAN.'11 MIS ISSUED FOR COMMENTS IN.09.011 OSE28N
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE: 1 : 250 CAD DRAWING
AREA : NIMR
SUB AREA : PRODUCTION STATION No. 05
DRWG. TYPE : KEY PLAN FOR PIPING PLAN
DESCRIPTION : LAUNCHER/RECEIVER AREA
TRAIN 4 EXTN.
شركة تنمية نفط عمان
Petroleum Development Oman
NIM 3 5285 001 DQ A1 A
DRAWING CONTROL INDEX NIM 1 2635 300 DQ 4
OVERALL PLOT PLAN NIM 1 5073 001 1
PLOT PLAN NIM 1 5097 001 1
ENGINEERING PLOT PLANS-KEY PLAN NIM 1 5082 001 1
OVERALL KEY PLAN NIM 3 5059 001 1
PIPING G.A. KEY PLAN NIM 3 5060 001 1
SITE GRADING PLAN NIM 2 5004 001 1
NIMR PRODUCTION STN. PLOT PLAN NIM 1 5072 001 1
NIMR PRODUCTION STN. SITE PLAN NIM 1 5071 001 1
REFERENCE DRAWINGS
D JUN'07 AS BUILT FOR PROJECT CODE '9X' 06.003
C FEB'06 AS BUILT FOR PROJECT CODE '9B' 04.002
B OCT'99 PIRJ AS BUILT FOR PROJECT CODE 'Y4' 98.289
A JAN.'93 AS BUILT AS PER FP-1238
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
3. REF. GRADE EL. IS LOCAL ELEVATION DEFINED ONLY FOR THE PURPOSE OF FOUNDATION & PIPING DESIGN.
2. PLANT DATUM EL. 100.000 = EL. 227.020 ABOVE M.S.L.
1. ALL CO-ORDINATES ARE IN METRES
NOTES
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NOZZLE SCHEDULE

EQUIP No.	NOZZ No.	SIZE	RATING	F.O.F. EL/ ¢ ELEV	ORIENT	¢ TO F.O.F. OR ¢ NOZZ
T-4807	N1	4"	150#RF	107.116	350°	5209
	N2A	8"	150#RF	104.216	357°	5209
	N2B	8"	150#RF	103.216	357°	5209
	N2C	8"	150#RF	102.216	357°	5209
	N2D	8"	150#RF	101.216	357°	5209
	N2E	8"	150#RF	100.216	357°	5209
	N3	3"	150#RF	108.794	0°	0
	N4	4"	150#RF	100.216	15°	5209
	N5A	2"	150#RF	105.856	–	5184
	N5B	2"	150#RF	105.246	–	5184
	N5C	2"	150#RF	104.636	–	5184
	N5D	2"	150#RF	104.026	–	5184
	N5E	2"	150#RF	103.416	45°	5184
	N5F	2"	150#RF	102.806	–	5184
	N5G	2"	150#RF	102.196	–	5184
	N5H	2"	150#RF	101.416	–	5184
	N5J	2"	150#RF	100.976	–	5184
	N5K	2"	150#RF	100.360	–	5184
	N6	2"	150#RF	107.897	5°	4400
	N7	3"	150#RF	108.677	90°	1000
	N9	3"	150#RF	100.116	70°	5184
	N10	2"	150#RF	100.116	125°	5184
	N11	2"	150#RF	100.116	120°	5184
	K5	2"	150#RF	107.995	0°	4000
	K7	2"	150#RF	108.695	180°	500
	A1B	20"	STD	STD	165°	4000
	A2B	24"	STD	STD	135°	STD
	D1	24"x24"	STD	STD	90°	STD

NOTES
1. FOR GENERAL NOTES SEE DRG. NO. NIM-3-5060-002
2. * VENDOR SUPPLY
3. EXISTING SPOOL WITH CHECK VALVE TO BE RE-USED.
4. 31440X-'X' INDICATE PIPING PE/ROTO LINED AND SUPER DUPLEX SS VALVES.

REFERENCE DRAWINGS

DESCRIPTION	AREA		SERIAL	SH.	F	
DRAWING CONTROL INDEX	NIM	1	2635	300	DQ	4
PIPING GA KEY PLAN, SLUDGE SYSTEM AREA	NIM	3	5060	002	DQ	1
UNDERGROUND SERVICES SLUDGE TANK AREA	NIM	3	5043	001		1
ENGINEERING PLOT PLAN, SLUDGE SYSTEM AREA	NIM	1	5089	001		1
NIMR PRODUCTION STATION OVERALL PLOT PLAN	NIM	1	5072	001		1
NIMR PRODUCTION STATION SITE PLAN	NIM	1	5071	001		1

MASTER DRAWING REVISION

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
E	JAN'00		AS BUILT FOR PROJ.'10	98.134	ONE/24	
D	MAY'89		AS BUILT FOR B.I. NO. 84.361			

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

DESCRIPTION : ISSUED FOR I.D.R

REV.	0.1	DRN. BY	MIS
		CHKD. BY	VMB
DATE	NOV.'10	APPRD. BY	HDD

WorleyParsons-Arabian Industries (JV) ورلي بارسونز - الصناعات العربية (محاصة)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

PROJECT DRAWING REVISION

REV	DATE	DRAWN BY	CHECKED TEAM L	CHECKED J.ENG.	DESCRIPTION	WBS. NO	PROJ. ENG.	SIGNATURE
A	APR.'11	MIS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	DEC.'10	MIS	MB/HDD	NNP	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

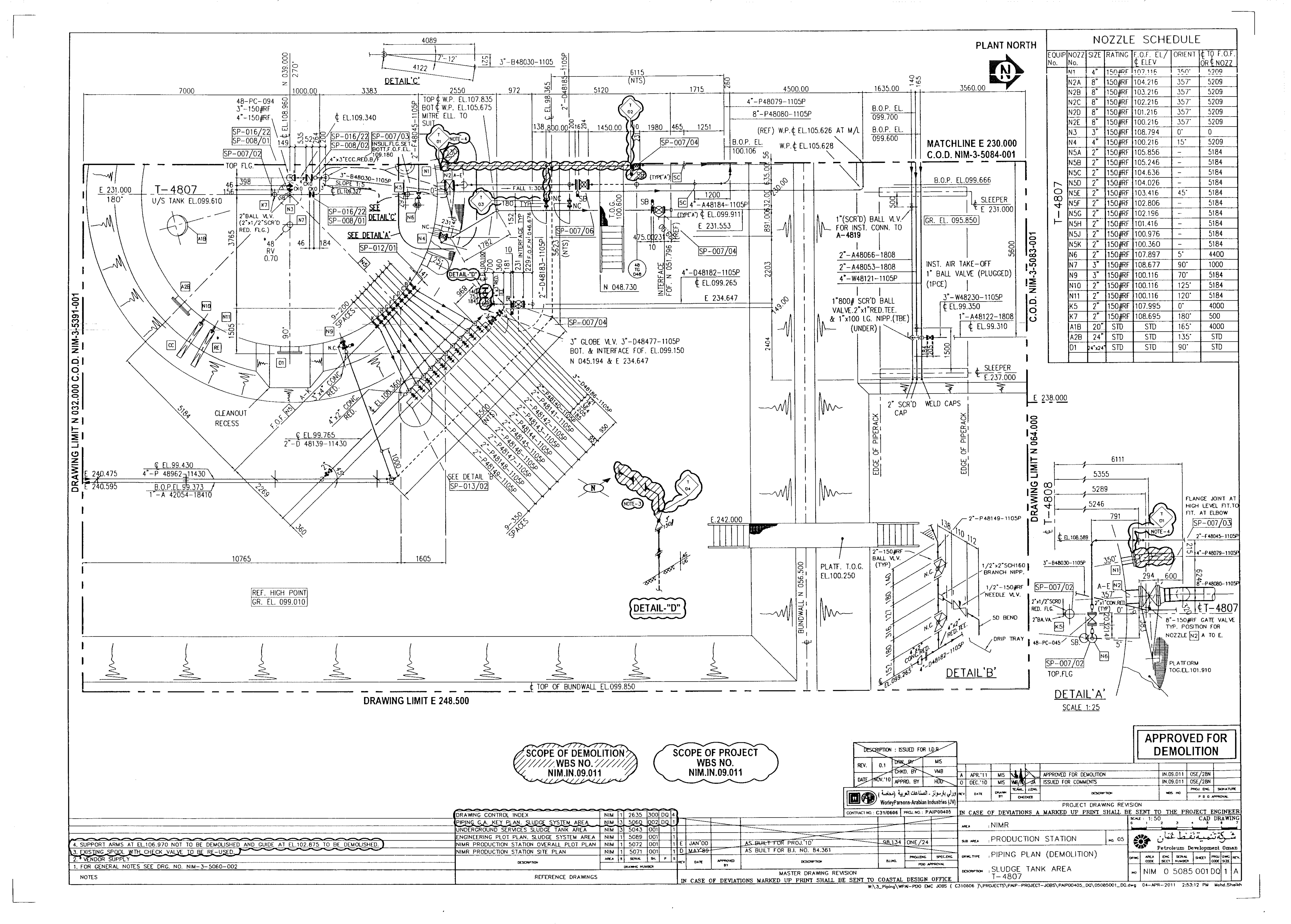
AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG TYPE : PIPING PLAN
DESCRIPTION : SLUDGE TANK AREA T-4807

SCALE : 1:50 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	3	5085	001	DQ	1	A

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NOZZLE SCHEDULE

EQUIP No.	NOZZ No.	SIZE	RATING	F.O.F. EL/ ¢ ELEV	ORIENT	¢ TO F.O.F. OR ¢ NOZZ
T-4807	N1	4"	150#RF	107.116	350°	5209
	N2A	8"	150#RF	104.216	357°	5209
	N2B	8"	150#RF	103.216	357°	5209
	N2C	8"	150#RF	102.216	357°	5209
	N2D	8"	150#RF	101.216	357°	5209
	N2E	8"	150#RF	100.216	357°	5209
	N3	3"	150#RF	108.794	0°	0
	N4	4"	150#RF	100.216	15°	5209
	N5A	2"	150#RF	105.856	–	5184
	N5B	2"	150#RF	105.246	–	5184
	N5C	2"	150#RF	104.636	–	5184
	N5D	2"	150#RF	104.026	–	5184
	N5E	2"	150#RF	103.416	45°	5184
	N5F	2"	150#RF	102.806	–	5184
	N5G	2"	150#RF	102.196	–	5184
	N5H	2"	150#RF	101.416	–	5184
	N5J	2"	150#RF	100.976	–	5184
	N5K	2"	150#RF	100.360	–	5184
	N6	2"	150#RF	107.897	5°	4400
	N7	3"	150#RF	108.677	90°	1000
	N9	3"	150#RF	100.116	70°	5184
	N10	2"	150#RF	100.116	125°	5184
	N11	2"	150#RF	100.116	120°	5184
	K5	2"	150#RF	107.995	0°	4000
	K7	2"	150#RF	108.695	180°	500
	A1B	20"	STD	STD	165°	4000
	A2B	24"	STD	STD	135°	STD
	D1	24"x24"	STD	STD	90°	STD

SCOPE OF DEMOLITION WBS NO. NIM.IN.09.011

SCOPE OF PROJECT WBS NO. NIM.IN.09.011

APPROVED FOR DEMOLITION

NOTES
4. SUPPORT ARMS AT EL.106.970 NOT TO BE DEMOLISHED AND GUIDE AT EL.102.875 TO BE DEMOLISHED.
3. EXISTING SPOOL WITH CHECK VALVE TO BE RE-USED.
2. * VENDOR SUPPLY
1. FOR GENERAL NOTES SEE DRG. NO. NIM-3-5060-002

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
DRAWING CONTROL INDEX	NIM	1	2635	300	DQ	4
PIPING G.A. KEY PLAN. SLUDGE SYSTEM AREA	NIM	3	5060	002	DQ	1
UNDERGROUND SERVICES SLUDGE TANK AREA	NIM	3	5043	001		1
ENGINEERING PLOT PLAN. SLUDGE SYSTEM AREA	NIM	1	5089	001		1
NIMR PRODUCTION STATION OVERALL PLOT PLAN	NIM	1	5072	001		1
NIMR PRODUCTION STATION SITE PLAN	NIM	1	5071	001		1

MASTER DRAWING REVISION

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
E	JAN'00		AS BUILT FOR PROJ.'1D'	98.134	ONE/24	
D	MAY'89		AS BUILT FOR B.I. NO. 84.361			

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

DESCRIPTION : ISSUED FOR I.D.R — REV. 0.1 — DATE NOV.'10 — DRN. BY MIS — CHKD. BY VMB — APPRD. BY HDD

WorleyParsons-Arabian Industries (JV) — ورلي بارسونز - الصناعات العربية (محاصة)

CONTRACT NO.: C31/0606 — PROJ. NO.: PAIP00405

PROJECT DRAWING REVISION

REV	DATE	DRAWN BY	CHECKED TEAM L.	CHECKED J.ENG.	DESCRIPTION	WBS NO	PROJ. ENG.	SIGNATURE
A	APR.'11	MIS			APPROVED FOR DEMOLITION	IN.09.011	OSE/28N	
0	DEC.'10	MIS	WB/HD	JA	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

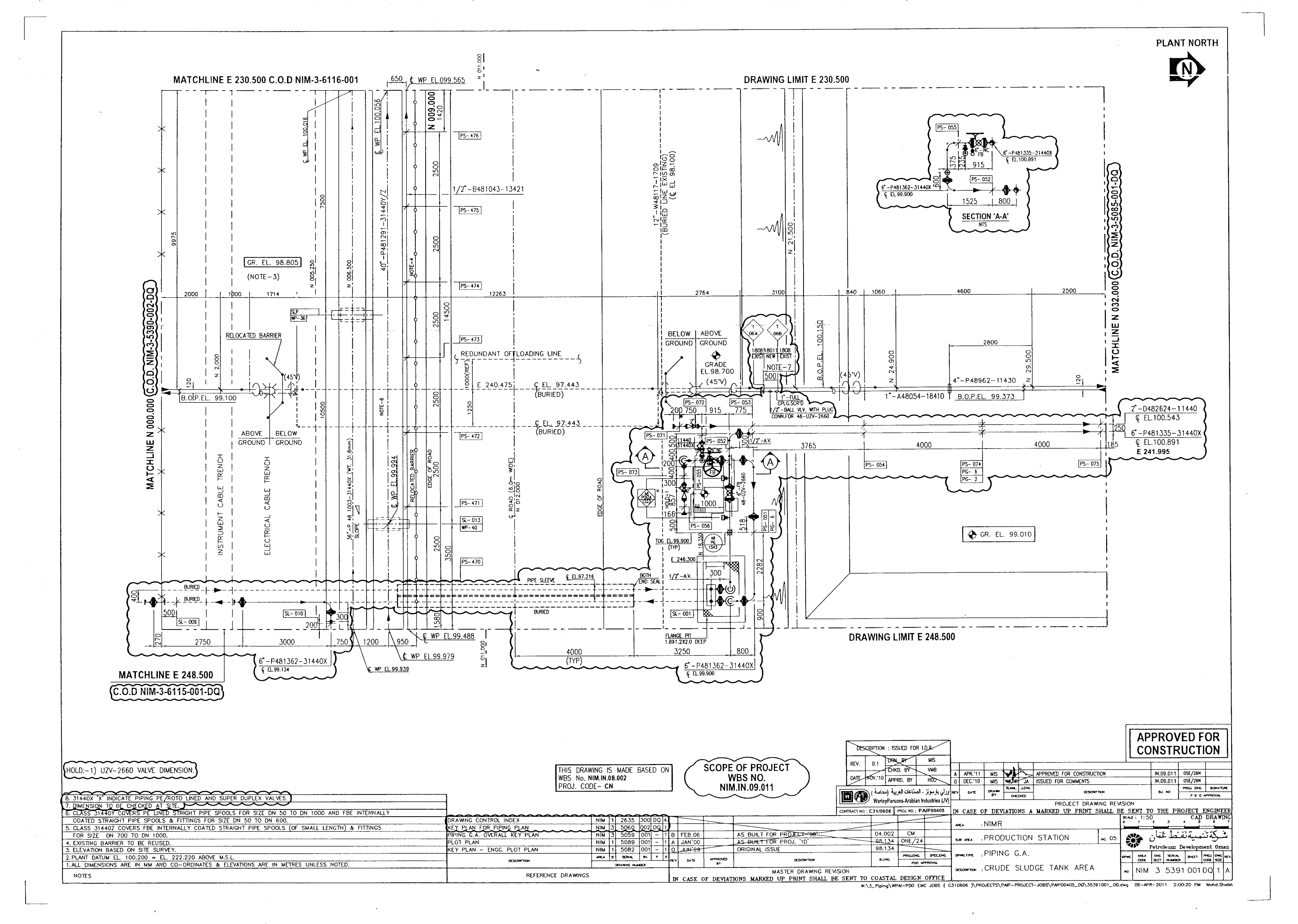
AREA : NIMR
SUB AREA : PRODUCTION STATION — NO. 05
DRWG. TYPE : PIPING PLAN (DEMOLITION)
DESCRIPTION : SLUDGE TANK AREA T-4807

SCALE : 1:50 — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG NO: NIM 0 5085 001 DQ 1 A

W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\05085001_DQ.dwg 04-APR-2011 2:53:12 PM Mohd.Sheikh



NOTES

8. 31440X 'X' INDICATE PIPING PE/ROTO LINED AND SUPER DUPLEX VALVES.
7. DIMENSION TO BE CHECKED AT SITE.
6. CLASS 31440Y COVERS PE LINED STRIGHT PIPE SPOOLS FOR SIZE DN 50 TO DN 1000 AND FBE INTERNALLY COATED STRAIGHT PIPE SPOOLS & FITTINGS FOR SIZE DN 50 TO DN 600.
5. CLASS 31440Z COVERS FBE INTERNALLY COATED STRAIGHT PIPE SPOOLS (OF SMALL LENGTH) & FITTINGS FOR SIZE ON 700 TO DN 1000.
4. EXISTING BARRIER TO BE REUSED.
3. ELEVATION BASED ON SITE SURVEY.
2. PLANT DATUM EL. 100.200 = EL. 222.220 ABOVE M.S.L.
1. ALL DIMENSIONS ARE IN MM AND CO-ORDINATES & ELEVATIONS ARE IN METRES UNLESS NOTED.

REFERENCE DRAWINGS

DESCRIPTION	AREA	3	SERIAL	SH.	P	3
DRAWING CONTROL INDEX	NIM	1	2635	300	00	4
KEY PLAN FOR PIPING PLAN	NIM	3	5060	002	DQ	1
PIPING G.A. OVERALL KEY PLAN	NIM	1	5059	001	-	1
PLOT PLAN	NIM	1	5089	001	-	1
KEY PLAN - ENGG. PLOT PLAN	NIM	1	5082	001	-	1

MASTER DRAWING REVISION

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG
B	FEB.06		AS BUILT FOR PROJECT '9B'	04.002	CM	
A	JAN'00		AS BUILT FOR PROJ. '1D'	98.134	ONE/24	
0	JUN'99		ORIGINAL ISSUE	98.134		

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

DESCRIPTION : ISSUED FOR I.D.R.			
REV.	0.1	DRN. BY	MIS
		CHKD. BY	VMB
DATE	NOV.'10	APPRD. BY	HOO

WorleyParsons-Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAJP00405

PROJECT DRAWING REVISION

REV	DATE	DRAWN BY	CHECKED	DESCRIPTION	B.I. NO.	P D O APPROVAL
A	APR.'11	MIS		APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N
0	DEC.'10	MIS	JA	ISSUED FOR COMMENTS	IN.09.011	OSE/28N

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE : 1:50 — CAD DRAWING

AREA : NIMR
SUB AREA : PRODUCTION STATION — NO. 05
DRWG TYPE : PIPING G.A.
DESCRIPTION : CRUDE SLUDGE TANK AREA

شركة تنمية نفط عمان
Petroleum Development Oman

NO. NIM 3 5391 001 DQ 1 A

W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\35391001_DQ.dwg 09-APR-2011 2:00:20 PM Mohd.Sheikh

PLANT NORTH



MATCHLINE E 230.500 C.O.D NIM-3-6116-001

DRAWING LIMIT E 230.500

MATCHLINE N 000.000 C.O.D. NIM-3-5390-002

MATCHLINE N 032.000 C.O.D. NIM-0-5085-001-DQ

MATCHLINE E 248.500
C.O.D NIM-3-6115-001-DQ

DRAWING LIMIT E 248.500

650 ℄ WP EL.099.565

N 011.000

N 009.000

1420

PS-476

PS-475

PS-474

PS-473

PS-472

PS-471

PS-470

SL-013
WP-40

SLP
WP-36

1/2"-B481043-13421

℄ WP EL.100.056

℄ WP EL.100.016

12"-W48117-1709
(BURIED LINE EXISTING)
(℄ EL 98.100)

GR. EL. 98.805
(NOTE-3)

N 005.250

N 006.500

NOTE-4

7500

9975

2000 | 1000 | 1714

12263

2764 | 3100 | 840 | 1060 | 4600 | 2500

14500

2500

RELOCATED BARRIER

REDUNDANT OFFLOADING LINE

1000(REF)

E 240.475

℄ EL. 97.443
(BURIED)

℄ EL. 97.443
(BURIED)

1250

10500

NOTE-6

(45°V)

120

N 2.000

B.O.P.EL. 99.100

ABOVE GROUND | BELOW GROUND

BELOW GROUND | ABOVE GROUND

GRADE EL. 98.700

NOTE-7
500

T 06A

T 06B

N 24.900

N 29.500

2800

4"-P48962-11430

1"-A42054-18410

B.O.P.EL. 99.373

B.O.P.EL. 100.150

GR. EL. 99.010

N 21.500

36"-P 48 1003-31440X (WT. 31.8mm)
SLOPE

40"-P481291-31440Y/Z

EDGE OF ROAD

RELOCATED BARRIER

INSTRUMENT CABLE TRENCH

ELECTRICAL CABLE TRENCH

℄ WP EL 99.939

℄ WP EL 99.979

℄ WP EL 99.994

℄ ROAD (6.0m WIDE)
N 012.000

EDGE OF ROAD

3500

1580

1200 | 950

℄ WP EL.99.488

N 011.000

SCOPE OF DEMOLITION
WBS NO.
NIM.IN.09.011

SCOPE OF PROJECT
WBS NO.
NIM.IN.09.011

THIS DRAWING IS MADE BASED ON
WBS No. NIM.IN.08.002
PROJ. CODE- CN

APPROVED FOR DEMOLITION

DESCRIPTION : ISSUED FOR I.D.R.			
REV.	0.1	DRN. BY	LAILA
		CHKD. BY	VMB
DATE	NOV.'10	APPRD. BY	HDD

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

REV	DATE	DRAWN BY	CHECKED TEAM L.	CHECKED L.ENG.	DESCRIPTION	B.I. NO	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	APR.'11	MIS			APPROVED FOR DEMOLITION	IN.09.011	OSE/2BN	
0	DEC.'10	LAILA	WD/HD	JA	ISSUED FOR COMMENTS	IN.09.011	OSE/2BN	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

NOTES
7. DIMENSION TO BE CHECKED AT SITE.
6. CLASS 31440Y COVERS PE LINED STRIGHT PIPE SPOOLS FOR SIZE DN 50 TO DN 1000 AND FBE INTERNALLY COATED STRAIGHT PIPE SPOOLS & FITTINGS FOR SIZE DN 50 TO DN 600.
5. CLASS 31440Z COVERS FBE INTERNALLY COATED STRAIGHT PIPE SPOOLS (OF SMALL LENGTH) & FITTINGS FOR SIZE ON 700 TO DN 1000.
4. EXISTING BARRIER TO BE REUSED.
3. ELEVATION BASED ON SITE SURVEY.
2. PLANT DATUM EL. 100.200 = EL. 222.220 ABOVE M.S.L.
1. ALL DIMENSIONS ARE IN MM AND CO-ORDINATES & ELEVATIONS ARE IN METRES UNLESS NOTED.

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	F	S
DRAWING CONTROL INDEX	NIM	1	2635	300	DQ	4
PIPING KEY PLAN	NIM	3	5060	002	DQ	1
PLOT PLAN	NIM	1	5089	001		1
KEY PLAN - ENGG. PLOT PLAN	NIM	1	5082	001		1

MASTER DRAWING REVISION

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PDO APPROVAL PROJ.ENG.	PDO APPROVAL SPEC.ENG.
B	FEB.06		AS BUILT FOR PROJECT '9B'	04.002	CM	
A	JAN'00		AS BUILT FOR PROJ. '1D'	98.134	ONE/24	
0	JUN'99		ORIGINAL ISSUE	98.134		

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : PRODUCTION STATION | NO. 05

DRWG. TYPE : PIPING G.A.(DEMOLITION)

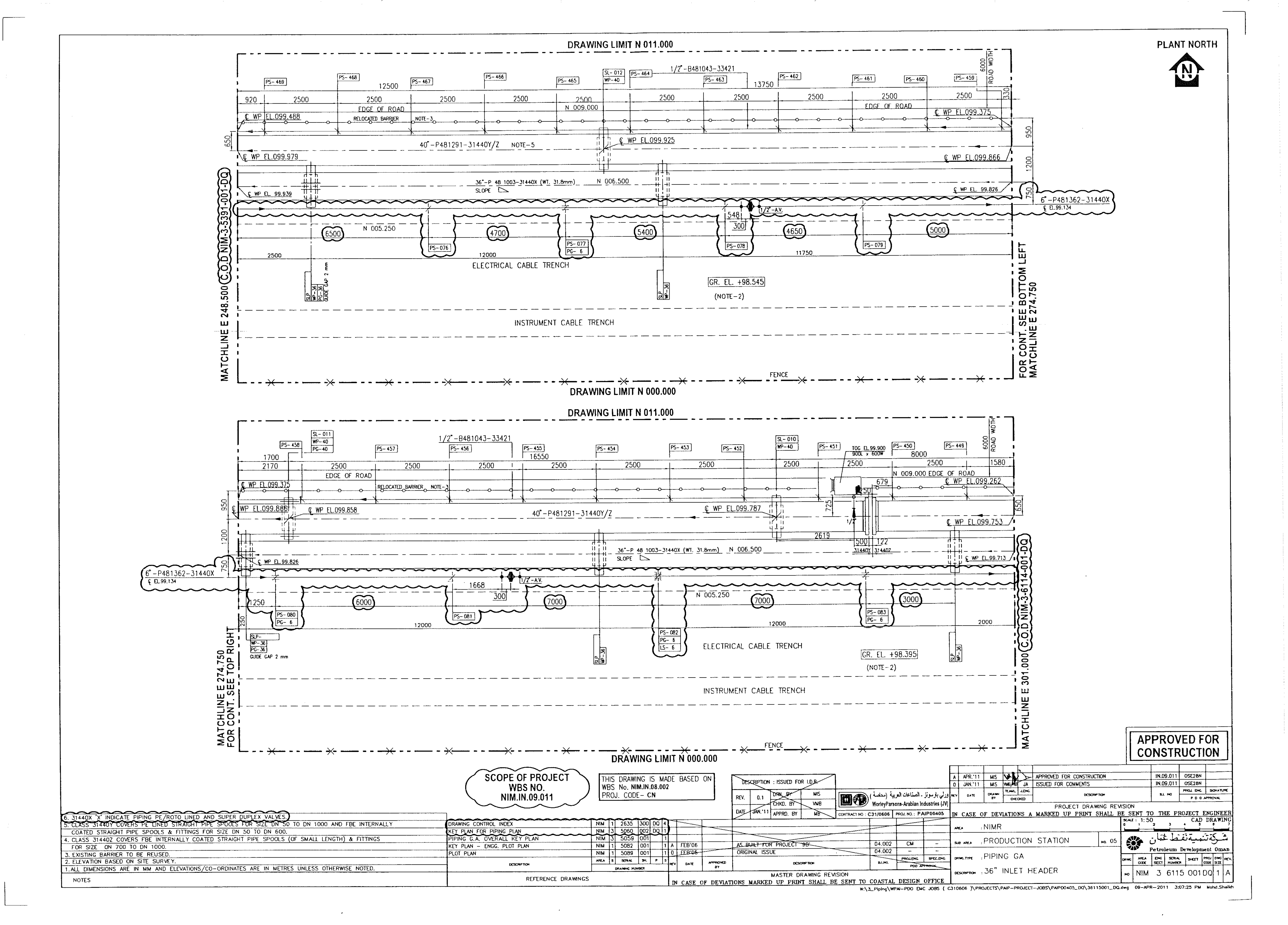
DESCRIPTION : CRUDE SLUDGE TANK AREA

SCALE : 1:50 | CAD DRAWING

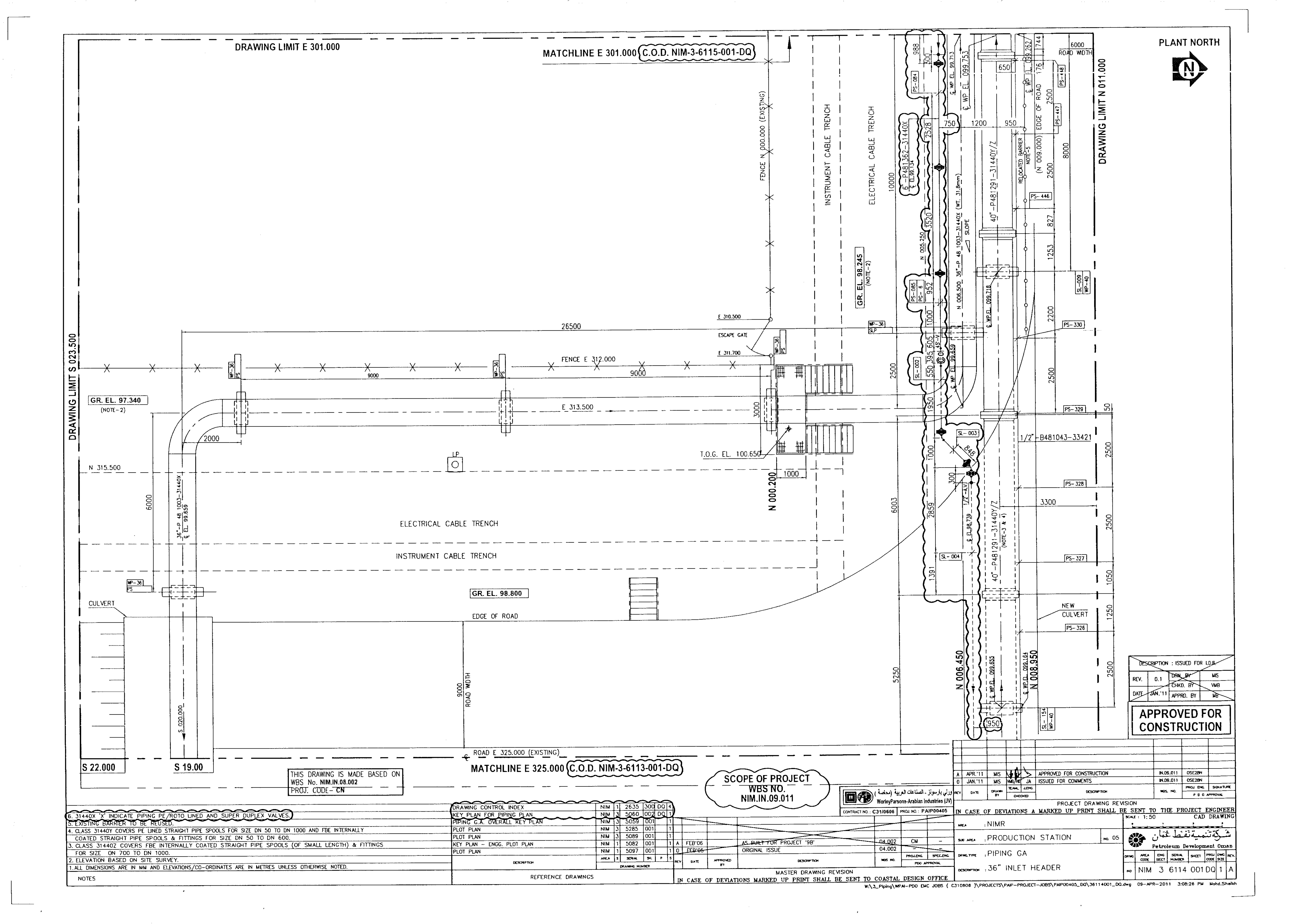
شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	0	5391	001	DQ	1	A

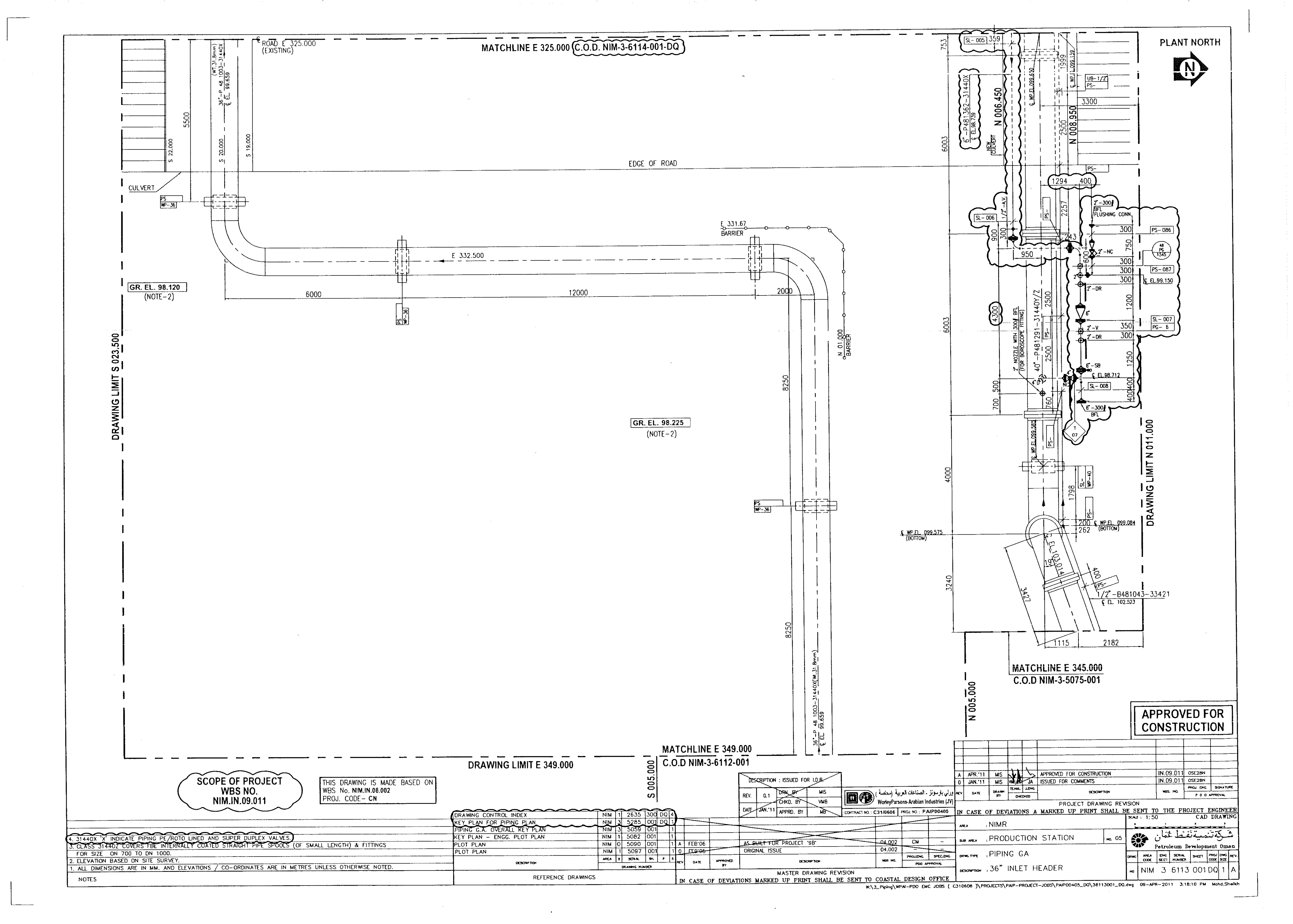
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\05391001_DQ.dwg 04-APR-2011 2:49:26 PM Mohd.Sheikh



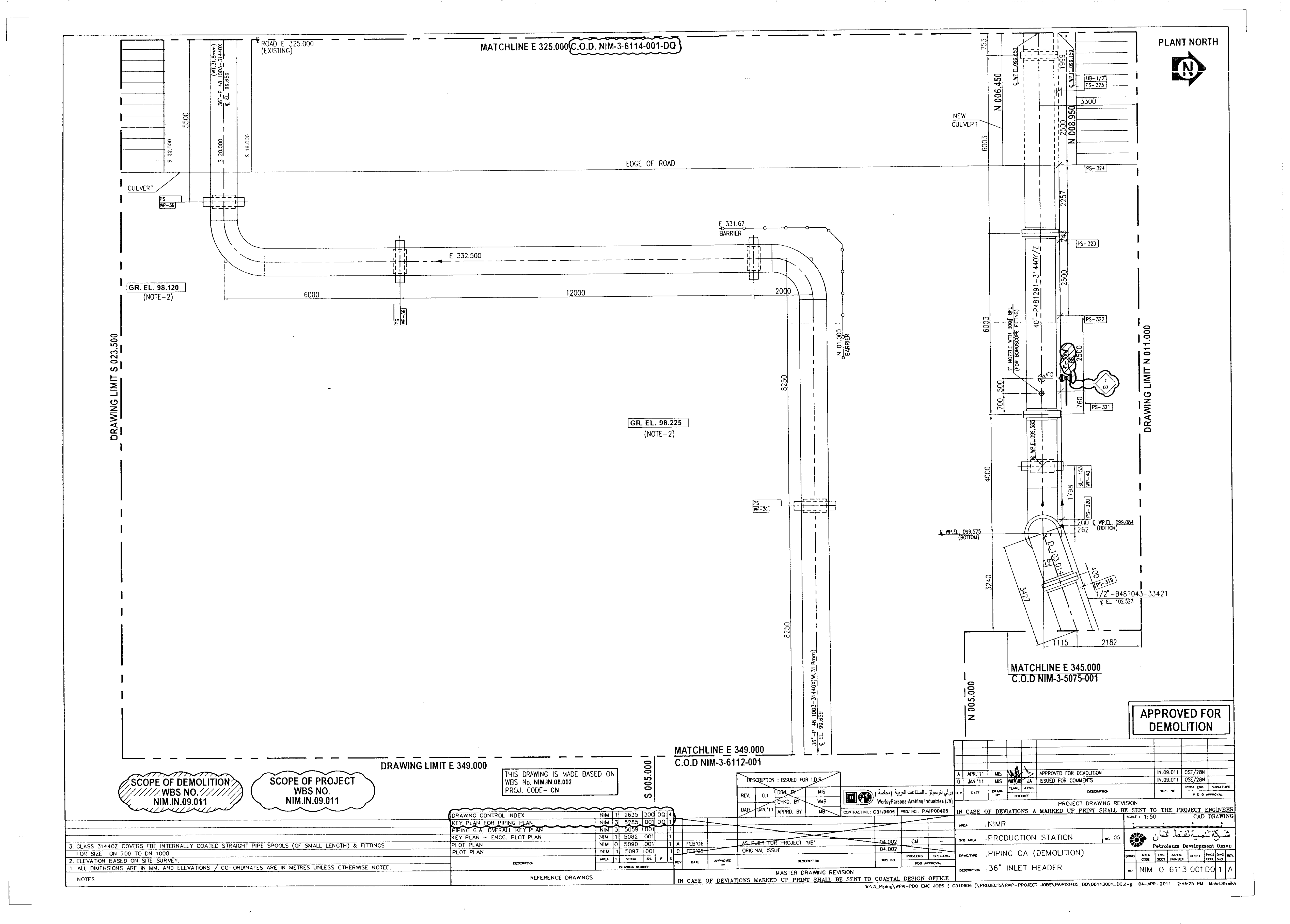
PLANT NORTH
DRAWING LIMIT N 011.000
DRAWING LIMIT N 000.000
MATCHLINE E 248.500 C.O.D NIM-3-5391-001-DQ
FOR CONT. SEE BOTTOM LEFT MATCHLINE E 274.750
MATCHLINE E 274.750 FOR CONT. SEE TOP RIGHT
MATCHLINE E 301.000 C.O.D NIM-3-6114-001-DQ
1/2"-B481043-33421
40"-P481291-31440Y/Z NOTE-5
36"-P 48 1003-31440X (WT. 31.8mm) N 006.500
6"-P481362-31440X
EDGE OF ROAD
RELOCATED BARRIER NOTE-3
ELECTRICAL CABLE TRENCH
INSTRUMENT CABLE TRENCH
FENCE
GR. EL. +98.545 (NOTE-2)
GR. EL. +98.395 (NOTE-2)
N 005.250
N 009.000
SCOPE OF PROJECT WBS NO. NIM.IN.09.011
THIS DRAWING IS MADE BASED ON WBS No. NIM.IN.08.002 PROJ. CODE- CN
APPROVED FOR CONSTRUCTION
6. 31440X 'X' INDICATE PIPING PE/ROTO LINED AND SUPER DUPLEX VALVES.
5. CLASS 31440Y COVERS PE LINED STRAIGHT PIPE SPOOLS FOR SIZE DN 50 TO DN 1000 AND FBE INTERNALLY COATED STRAIGHT PIPE SPOOLS & FITTINGS FOR SIZE DN 50 TO DN 600.
4. CLASS 31440Z COVERS FBE INTERNALLY COATED STRAIGHT PIPE SPOOLS (OF SMALL LENGTH) & FITTINGS FOR SIZE ON 700 TO DN 1000.
3. EXISTING BARRIER TO BE REUSED.
2. ELEVATION BASED ON SITE SURVEY.
1. ALL DIMENSIONS ARE IN MM AND ELEVATIONS/CO-ORDINATES ARE IN METRES UNLESS OTHERWISE NOTED.
NOTES
DRAWING CONTROL INDEX NIM 1 2635 300 DQ 4
KEY PLAN FOR PIPING PLAN NIM 3 5060 002 DQ 1
PIPING G.A. OVERALL KEY PLAN NIM 3 5059 001 1
KEY PLAN - ENGG. PLOT PLAN NIM 1 5082 001 1
PLOT PLAN NIM 1 5089 001 1
REFERENCE DRAWINGS
A FEB'06 AS BUILT FOR PROJECT 'BB' 04.002 CM
0 FEB'05 ORIGINAL ISSUE 04.002
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
WorleyParsons-Arabian Industries (JV)
CONTRACT NO : C31/0606 PROJ. NO. : PAIP00405
A APR.'11 MIS APPROVED FOR CONSTRUCTION IN.09.011 OSE28N
0 JAN.'11 MIS WB JA ISSUED FOR COMMENTS IN.09.011 OSE28N
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE : 1:50 CAD DRAWING
AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG. TYPE : PIPING GA
DESCRIPTION : 36" INLET HEADER
Petroleum Development Oman
شركة تنمية نفط عمان
NO NIM 3 6115 001 DQ 1 A
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\36115001_DQ.dwg 09-APR-2011 3:07:25 PM Mohd.Shaikh



DRAWING LIMIT E 301.000
MATCHLINE E 301.000 C.O.D. NIM-3-6115-001-DQ
PLANT NORTH
DRAWING LIMIT N 011.000
DRAWING LIMIT S 023.500
FENCE N 000.000 (EXISTING)
INSTRUMENT CABLE TRENCH
ELECTRICAL CABLE TRENCH
GR. EL. 98.245 (NOTE-2)
GR. EL. 97.340 (NOTE-2)
GR. EL. 98.800
FENCE E 312.000
E 313.500
ESCAPE GATE
T.O.G. EL. 100.650
N 315.500
N 000.200
36"-P 48 1003-31440X
40"-P481291-31440Y/Z
1/2"-B481043-33421
RELOCATED BARRIER NOTE-5
EDGE OF ROAD
ROAD WIDTH
NEW CULVERT
CULVERT
N 006.450
N 008.950
ROAD E 325.000 (EXISTING)
MATCHLINE E 325.000 C.O.D. NIM-3-6113-001-DQ
S 22.000
S 19.00
THIS DRAWING IS MADE BASED ON WBS No. NIM.IN.08.002 PROJ. CODE- CN
SCOPE OF PROJECT WBS NO. NIM.IN.09.011
APPROVED FOR CONSTRUCTION
DESCRIPTION : ISSUED FOR I.D.R.
A APR.'11 MIS APPROVED FOR CONSTRUCTION
0 JAN.'11 MIS ISSUED FOR COMMENTS
WorleyParsons-Arabian Industries (JV)
وورلي بارسونز - الصناعات العربية (محاصة)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE: 1:50 CAD DRAWING
AREA: NIMR
SUB AREA: PRODUCTION STATION
DRWG TYPE: PIPING GA
DESCRIPTION: 36" INLET HEADER
شركة تنمية نفط عمان
Petroleum Development Oman
NO. NIM 3 6114 001 DQ 1 A
6. 31440X 'X' INDICATE PIPING PE/ROTO LINED AND SUPER DUPLEX VALVES.
5. EXISTING BARRIER TO BE REUSED.
4. CLASS 31440Y COVERS PE LINED STRAIGHT PIPE SPOOLS FOR SIZE DN 50 TO DN 1000 AND FBE INTERNALLY COATED STRAIGHT PIPE SPOOLS & FITTINGS FOR SIZE DN 50 TO DN 600.
3. CLASS 31440Z COVERS FBE INTERNALLY COATED STRAIGHT PIPE SPOOLS (OF SMALL LENGTH) & FITTINGS FOR SIZE ON 700 TO DN 1000.
2. ELEVATION BASED ON SITE SURVEY.
1. ALL DIMENSIONS ARE IN MM AND ELEVATIONS/CO-ORDINATES ARE IN METRES UNLESS OTHERWISE NOTED.
NOTES
DRAWING CONTROL INDEX NIM 1 2635 300 DQ 4
KEY PLAN FOR PIPING PLAN NIM 3 5060 002 DQ 1
PIPING G.A. OVERALL KEY PLAN NIM 3 5059 001 1
PLOT PLAN NIM 3 5285 001 1
PLOT PLAN NIM 3 5089 001 1
KEY PLAN - ENGG. PLOT PLAN NIM 1 5082 001 1
PLOT PLAN NIM 1 5097 001 1
REFERENCE DRAWINGS
A FEB'06 AS BUILT FOR PROJECT '9B' 04.002
0 FEB'05 ORIGINAL ISSUE 04.002
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE



PLANT NORTH
MATCHLINE E 325.000 C.O.D. NIM-3-6114-001-DQ
ROAD E 325.000 (EXISTING)
EDGE OF ROAD
CULVERT
GR. EL. 98.120 (NOTE-2)
GR. EL. 98.225 (NOTE-2)
DRAWING LIMIT S 023.500
DRAWING LIMIT N 011.000
DRAWING LIMIT E 349.000
E 332.500
E 331.67 BARRIER
N 01.000 BARRIER
N 006.450
N 008.950
N 005.000
S 005.000
36"-P 48 1003-31440X (WT.31.8mm)
40"-P481291-31440Y/Z
6"-P481362-31440X
1/2"-B481043-33421
FLUSHING CONN.
NEW CULVERT
MATCHLINE E 345.000 C.O.D NIM-3-5075-001
MATCHLINE E 349.000 C.O.D NIM-3-6112-001
APPROVED FOR CONSTRUCTION
SCOPE OF PROJECT WBS NO. NIM.IN.09.011
THIS DRAWING IS MADE BASED ON WBS No. NIM.IN.08.002 PROJ. CODE- CN
4. 31440X 'X' INDICATE PIPING PE/ROTO LINED AND SUPER DUPLEX VALVES.
3. CLASS 31440Z COVERS FBE INTERNALLY COATED STRAIGHT PIPE SPOOLS (OF SMALL LENGTH) & FITTINGS FOR SIZE ON 700 TO DN 1000.
2. ELEVATION BASED ON SITE SURVEY.
1. ALL DIMENSIONS ARE IN MM. AND ELEVATIONS / CO-ORDINATES ARE IN METRES UNLESS OTHERWISE NOTED.
NOTES
DRAWING CONTROL INDEX NIM 1 2635 300 DQ 4
KEY PLAN FOR PIPING PLAN NIM 3 5285 001 DQ 1
PIPING G.A. OVERALL KEY PLAN NIM 3 5059 001 1
KEY PLAN - ENGG. PLOT PLAN NIM 1 5082 001 1
PLOT PLAN NIM 0 5090 001 1
PLOT PLAN NIM 1 5097 001 1
REFERENCE DRAWINGS
A FEB'06 AS BUILT FOR PROJECT '9B' 04.002
0 FEB'06 ORIGINAL ISSUE 04.002
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
DESCRIPTION : ISSUED FOR I.D.R.
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405
A APR.'11 MIS APPROVED FOR CONSTRUCTION IN.09.011
0 JAN.'11 MIS JA ISSUED FOR COMMENTS IN.09.011
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE: 1:50 CAD DRAWING
AREA: NIMR
SUB AREA: PRODUCTION STATION NO. 05
DRWG TYPE: PIPING GA
DESCRIPTION: 36" INLET HEADER
Petroleum Development Oman
شركة تنمية نفط عمان
NO NIM 3 6113 001 DQ 1 A
09-APR-2011 3:18:10 PM



PLANT NORTH
N
MATCHLINE E 325.000 C.O.D. NIM-3-6114-001-DQ
ROAD E 325.000 (EXISTING)
36"-P 48 1003-31440X (WT.31.8mm) EL 99.659
5500
S 22.000
S 20.000
S 19.000
EDGE OF ROAD
CULVERT
PS WP-36
E 331.67 BARRIER
E 332.500
6000
12000
2000
GR. EL. 98.120 (NOTE-2)
GR. EL. 98.225 (NOTE-2)
N 01.000 BARRIER
8250
8250
DRAWING LIMIT S 023.500
DRAWING LIMIT N 011.000
DRAWING LIMIT E 349.000
36"-P 48 1003-31440X(W.31.8mm) EL 99.659
MATCHLINE E 349.000
C.O.D NIM-3-6112-001
S 005.000
N 006.450
N 008.950
NEW CULVERT
UB-1/2"
PS-325
PS-324
PS-323
PS-322
PS-321
PS-320
PS-319
3300
1999
2500
2257
2500
2500
6003
6003
40"-P481291-31440Y/Z
2" NOZZLE WITH 300# BFL (FOR BOROSCOPE FITTING)
700 500
760
4000
1798
SL-153 WP-40
200 WP EL 099.084 (BOTTOM)
262
WP EL 099.575 (BOTTOM)
EL 103.014
3427
3240
400
1/2"-B481043-33421
EL 102.523
1115
2182
MATCHLINE E 345.000
C.O.D NIM-3-5075-001
N 005.000
APPROVED FOR DEMOLITION
SCOPE OF DEMOLITION WBS NO. NIM.IN.09.011
SCOPE OF PROJECT WBS NO. NIM.IN.09.011
THIS DRAWING IS MADE BASED ON WBS No. NIM.IN.08.002 PROJ. CODE- CN
3. CLASS 31440Z COVERS FBE INTERNALLY COATED STRAIGHT PIPE SPOOLS (OF SMALL LENGTH) & FITTINGS FOR SIZE ON 700 TO DN 1000.
2. ELEVATION BASED ON SITE SURVEY.
1. ALL DIMENSIONS ARE IN MM. AND ELEVATIONS / CO-ORDINATES ARE IN METRES UNLESS OTHERWISE NOTED.
NOTES
DRAWING CONTROL INDEX NIM 1 2635 300 DQ 4
KEY PLAN FOR PIPING PLAN NIM 3 5285 001 DQ 1
PIPING G.A. OVERALL KEY PLAN NIM 3 5059 001 1
KEY PLAN - ENGG. PLOT PLAN NIM 1 5082 001 1
PLOT PLAN NIM 0 5090 001 1
PLOT PLAN NIM 1 5097 001 1
REFERENCE DRAWINGS
A FEB'06 AS BUILT FOR PROJECT '9B' 04.002 CM
0 FEB'05 ORIGINAL ISSUE 04.002
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
DESCRIPTION : ISSUED FOR I.D.R.
REV. 0.1 DRN. BY MIS CHKD. BY VMB
DATE JAN.'11 APPRD. BY MB
وورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405
A APR.'11 MIS APPROVED FOR DEMOLITION IN.09.011 OSE/28N
0 JAN.'11 MIS JA ISSUED FOR COMMENTS IN.09.011 OSE/28N
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE: 1:50 CAD DRAWING
AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG. TYPE : PIPING GA (DEMOLITION)
DESCRIPTION : 36" INLET HEADER
شركة تنمية نفط عمان
Petroleum Development Oman
NO NIM 0 6113 001 DQ 1 A
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DO\06113001_DQ.dwg 04-APR-2011 2:46:25 PM Mohd.Shaikh

COVER SHEET

TIE-IN SCHEDULE

NIMR SLUDGE PITS SYSTEM UPGRADE

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	W.B.S. NO.	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
B	APR.'11	MIS			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
A	JAN.'11	MIS	VMB/HD	JA	RE-ISSUED FOR COMMENTS	IN.09.011	OSE/28N	
0	DEC.'10	MIS	VMB/HDD	NNP	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

REV	DATE	APPROVED BY	DESCRIPTION	W.B.S. NO.	PDO APPROVAL PROJ.ENG.	PDO APPROVAL SPEC.ENG.

DRAWING CONTROL INDEX REFER
NIM -2635-300-DQ

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT NO. 05

DRWG.TYPE : TIE-IN SCHEDULE

DESCRIPTION : COVER SHEET

SCALE : NTS CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	3	2143	001	DQ	3	B

W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\32143001_DQ.dwg 12-APR-2011 5:28:27 PM Mohd.Sheikh

SHEET NO.	DESCRIPTION	REVISION & ISSUE DATE OF DOCUMENT											
		0 DEC.'10	A JAN.'11	B APR.'11	C	D	E	F	G	H	I	J	K	L
		REVISION OF SHEET											
001	COVER SHEET	0	A	B									
002	INDEX AND ISSUE SHEET	0	A	B									
003	TIE-IN DESCRIPTION SHEET	0	A	B									

APPROVED FOR CONSTRUCTION

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT NO. 5

DRWG.TYPE : TIE-IN SCHEDULE

DESCRIPTION : INDEX AND ISSUE SHEET

SCALE : NTS CAD DRAWING

0 1 2 3 4 5 6 7

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	3	2143	002	DQ	3	B

ورلي بارسونز - الصناعات العربية (محاصة)

WorleyParsons-Arabian Industries (JV)

NOTES

CONTRACT NO.: **C31/0606** PROJ. NO.: **PAIP00405**

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TIE-IN NO.	DESCRIPTION	TIE-IN TYPE	P.E.F.S.	PIPING PLAN	LINE NO.	ISOMETRIC	REMARKS
T 01	DISMANTLE THE EXISTING PIPE SPOOL AND CONNECT NEW 4" - 150# FLANGED PIPE SPOOL.	F2	NIM-1-5030-001-DQ	NIM-3-5085-001-DQ	P48079	NIM-3-2144-016-DQ	
T 02	DISMANTLE THE EXISTING PIPE SPOOL AND ADD NEW 4" - 150# BLIND FLANGE.	F3	NIM-1-5030-001-DQ	NIM-3-5085-001-DQ	P48079	NIM-3-2144-021-DQ	
T 03	DISMANTLE THE EXISTING PIPE SPOOL AND ADD NEW 2" - 150# BLIND FLANGE.	F3	NIM-1-5030-001-DQ	NIM-3-5085-001-DQ	D48183	NIM-3-2144-040-DQ	
T 04	DISMANTLE THE EXISTING PIPE SPOOL AND CONNECT NEW 3" - 150# FLANGED PIPE SPOOL.	F2	NIM-1-5040-002-DQ	NIM-3-5085-001-DQ	D48477	NIM-3-2144-037-DQ	
T 06A	DISMANTLE THE EXISTING SCREWED PIPE AND CONNECT THE NEW PIPE SPOOL WITH UNION JOINTS.	T4	NIM-1-5054-001-DQ	NIM-3-5391-001-DQ	A48054	NIM-3-2144-032-DQ	
T 06B	CUT THE EXISTING PIPE AND CONNECT THE NEW PIPE SPOOL WITH SCREWED COUPLING.	T5	NIM-1-5054-001-DQ	NIM-3-5391-001-DQ	A48054	NIM-3-2144-032-DQ	
T 07	DISMANTLE THE EXISTING BLIND FLANGE AND CONNECT NEW 4" - 300# FLANGED PIPE SPOOL.	F2	NIM-1-3637-001-DQ	NIM-3-6113-001-DQ	P481291	NIM-3-2144-017-DQ	

BUTT WELD	B1	B2	B3 (FW)	B4	B5	B6	B7
FLANGED	F1	F2	F3	F4	F5	F6	F7
THREADED	T1	T2	T3	T4	T5	T6	T7
HOT TAP	H1 (SPLIT TEE)	H2 (WELDOLET)					

GRE PIPING

G1	G2	G3	G4
LAMINATION JOINT	COUPLER		

LEGEND :
- EXISTING
- NEW

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ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

NOTES

AREA : NIMR
SUB AREA : NIMR SLUDGE PIT NO. 05
DRWG.TYPE : TIE-IN SCHEDULE
DESCRIPTION : TIE-IN DESCRIPTION SHEET

SCALE : NTS 0 1 2 3 4 5 6 7
CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

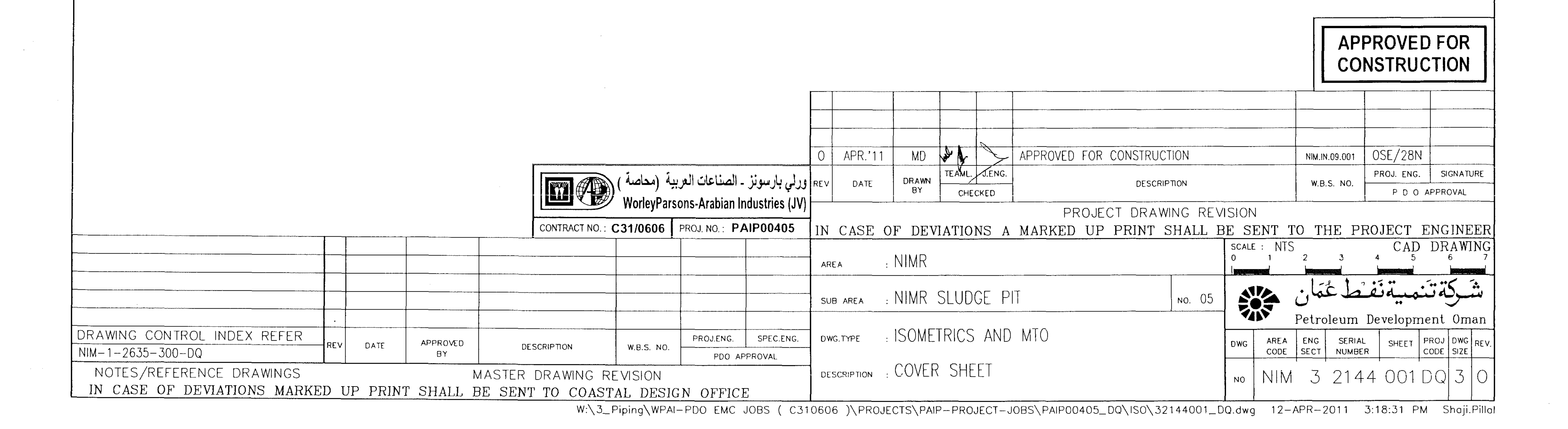
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NO	NIM	3	2143	003	DQ	3	B

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COVER SHEET

ISOMETRIC AND MTO.

NIMR SLUDGE PITS SYSTEM UPGRADE



SHEET NO.	DESCRIPTION	REVISION & DATE OF ISSUE OF DOCUMENT / REVISION OF SHEETS: 0 APR.'11	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q
001	COVER SHEET	0																
002	INDEX & ISSUE SHEET	0																
003	ISSUE SHEET	0																
004	ISSUE SHEET	N/A																
005	ISSUE SHEET	N/A																
006	ISSUE SHEET	N/A																
007	ISSUE SHEET	N/A																
008	PE LINING DETAILS	0																
009	GENERAL NOTES	0																
010	ISO SYMBOL SHEET	0																

SHEET NO.	CONTENTS/LINE No.	REVISION & DATE OF ISSUE OF DOCUMENT / REVISION OF ISOMETRIC SHEETS: 0 APR.'11	A	B	C	D	E	F	G	H	I	REMARKS
011	P481329	0										
012	P481329	0										
013	P481330	0										
014	P481331	0										
015	P481332	0										
016	SPARE											
017	P481335	0										
018	P481335	0										
019	P481362	0										
020	P481362	0										
021	SPARE											
022	SPARE											
023	P481334	0										
024	P481357	0										
025	P48079/D48183	0										
026	SPARE											
027	P481329	0										
028	B481024	0										
029	B481025	0										
030	B481031	0										
031	B481032	0										
032	B481036	0										
033	B481039	0										
034	SPARE											
035	SPARE											

SHEET NO.	REVISION & DATE OF ISSUE OF DOCUMENT / REVISION OF ISOWISE MTO SHEETS: 0 APR.'11	A	B	C	D	E	F	G	H	I	REMARKS
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APPROVED FOR CONSTRUCTION

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DWG.TYPE : ISOMETRICS AND MTO

DESCRIPTION : INDEX AND ISSUE SHEET

SCALE : NTS — CAD DRAWING

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Petroleum Development Oman

DWG.	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	3	2144	002	DQ	3	0

NOTES

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

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SHEET NO.	CONTENTS/LINE No.	REVISION & DATE OF ISSUE OF DOCUMENT										REMARKS
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		APR.'11										
		REVISION OF ISOMETRIC SHEETS										
036	A48911	0										
037	D482612	0										
038	D482625	0										
039	D482626	0										
040	D482627	0										
041	D482624	0										
042	SPARE											
043	D482643	0										
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SHEET NO.	REVISION & DATE OF ISSUE OF DOCUMENT										REMARKS
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	APR.'11										
	REVISION OF ISOWISE MTO SHEETS										
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APPROVED FOR CONSTRUCTION

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)

CONTRACT NO.: **C31/0606** PROJ. NO.: **PAIP00405**

NOTES

AREA : NIMR
SUB AREA : NIMR SLUDGE PIT NO. 05
DWG.TYPE : ISOMETRICS AND MTO
DESCRIPTION : ISSUE SHEET

SCALE : NTS CAD DRAWING
0 1 2 3 4 5 6 7

شركة تنمية نفط عمان
Petroleum Development Oman

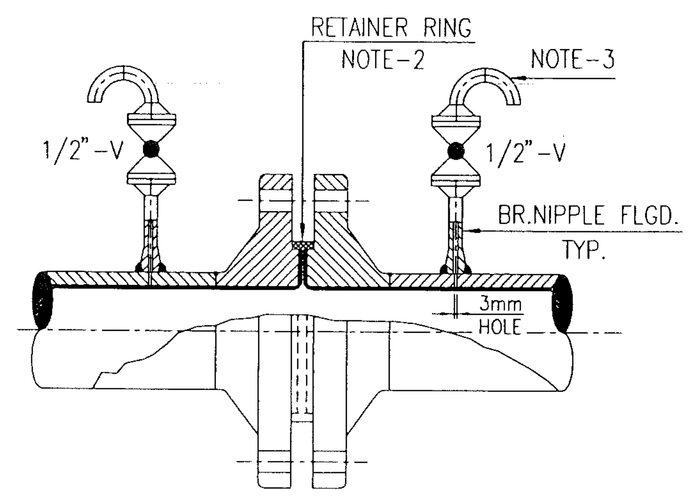
DWG. NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	3	2144	003	DQ	3	0

W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\ISO\32144003_DQ.dwg 13-APR-2011 8:10:38 AM Mohd.Sheikh

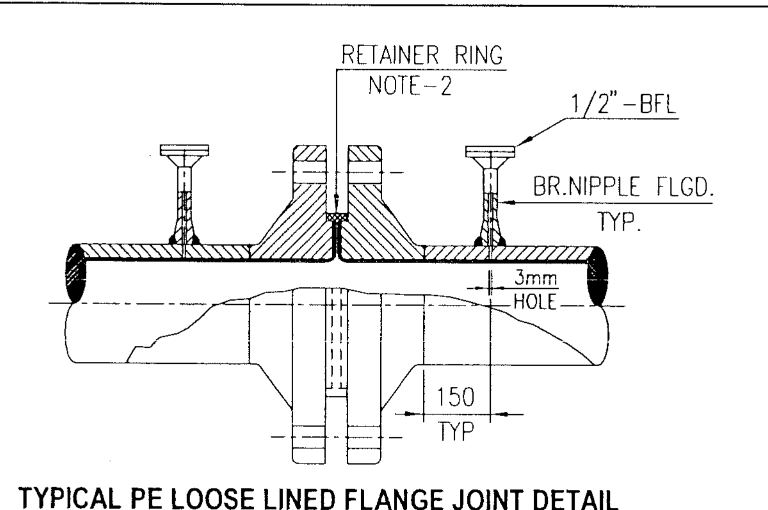
PIPE SPOOL INTERNAL PE LINING

RETAINER RING
NOTE-2

TYPICAL ROTO LINED FLANGE JOINT DETAIL



TYPICAL PE LOOSE LINED FLANGE JOINT DETAIL
OIL & GAS SERVICE



TYPICAL PE LOOSE LINED FLANGE JOINT DETAIL
WATER SERVICE

NOTES:

1. REFER ERD-43-15 FOR SPECIFICATION OF POLYETHYLENE LINER.
2. RETAINING RING SHALL BE SUPPLIED BY THE PE LINING VENDOR.
3. ANNULUS VENT ORIENTATION TO BE DECIDED AT SITE.
4. PIPE SPOOLS SHALL BE PE LINED-LOOSE OR ROTO LINED DEPENDING ON THE SPOOL LENGTH GEOMETRY.
5. TABLE-A ALL DIMENSIONS SHALL BE CONSIDERED AS DIAGONAL LENGTH.
6. GUIDELINE FOR ROTO-LINING OF SPOOL IS SHOWN IN THE TABLE-A BELOW.

TABLE-A (NOTE-6)
ROTO LINING-DIMENSIONAL CAPABILITIES

NOMINAL SIZE	STRAIGHT LENGTH SPOOLS (Max.)	BENDS (Max.)	TEE (Max.)
3"	2500mm	2500mm	2500mm
4" TO 12"	3500mm	3500mm	3500mm
14" TO 20"	3500mm	3350mm	3350mm
24"	3150mm	3300mm	3000mm
26"	3000mm	3300mm	3000mm
30"	3000mm	3300mm	3000mm
34"	3000mm	3300mm	2500mm
36"	3000mm	3300mm	2100mm
40"	2800mm	3300mm	
42"	2800mm		

NOTE: PIPE SPOOL DIMENSION IS NOT APPLICABLE IF SPOOL WEIGHT IS MORE THAN 2250 Kgs.

7. ENSURE THAT ALL ROTO LINED PIPE SPOOL DIMENSIONS ARE VERIFIED AND APPROVED BY PE LINING CONTRACTOR PRIOR TO FABRICATION.
8. PIPE SPOOL DIMENSIONS ARE GIVEN FROM THE FACE OF CS FLANGE (EXCLUDING LINING THICKNESS)
9. FOR ROTO LINING MIN. BRANCH OFF SIZE SHALL BE 2".
10. FOR PE LOOSE LINING MIN. PIPE SIZE SHALL BE 4".
11. FOR ON PLOT PIPING, PE LOOSE LINER STRAIGHT PIPE SPOOL LENTGTH OF 19.0 M.(Max.) SHALL BE CONSIDERED.
12. THE PE LINED PIPE SPOOL TO BE FABRICATED WITH THE INSIDE EDGES OF THE RAISED FACE FLANGES GROUND TO RADIUS OF 6mm.
13. FOR PE LINED PIPE SPOOLS, INTERNAL WELDING PENETRATION & BURNS SHALL BE CONTROLLED & GROUND FLUSH WITH THE WALL WHEREVER POSSIBLE TO GRIND FROM INSIDE.

APPROVED FOR CONSTRUCTION

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)

CONTRACT NO.: **C31/0606** | PROJ. NO.: **PAIP00405**

AREA : NIMR
SUB AREA : NIMR SLUDGE PIT — NO. 05
DWG.TYPE : ISOMETRICS & MTO
DESCRIPTION : PE LINING DETAILS

SCALE : NTS — CAD DRAWING
0 1 2 3 4 5 6 7

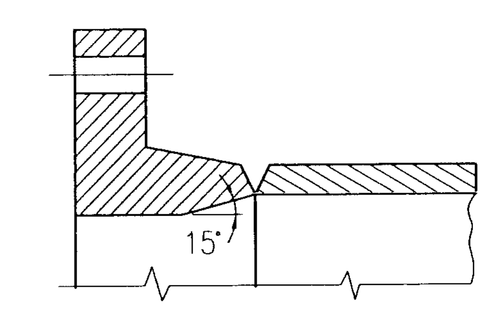
شركة تنمية نفط عمان
Petroleum Development Oman

DWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	3	2144	008	DQ	3	0

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GENERAL NOTES

1. ALL DIMENSIONS ON ISOMETRICS ARE IN MILLIMETRES. ELEVATIONS AND CO-ORDINATES ARE IN METRES, UNLESS OTHERWISE NOTED.
2. ROUTING INDICATED FOR LINES 1 1/2" & BELOW IS FOR GUIDANCE ONLY. EXACT ROUTING TO BE DECIDED AT SITE.
3. FIELD WELDS TO BE DECIDED AT SITE BY PIPING CONTRACTOR.
4. PIPES, PIPE FITTINGS AND VALVES ON ISOMETRIC DRAWINGS ARE SHOWN IN ACCORDANCE WITH SHEET NO. 010
5. BUILT-IN DIMENSIONS FOR VALVES ON ISOMETRIC DRAWINGS ARE GENERALLY INCLUDING THE THICKNESS OF GASKETS.
6. NO ALLOWANCE FOR WELD GAP IS GIVEN ON ISOMETRIC DRAWINGS. OVERALL DIMENSIONS OF CLOSED ASSEMBLIES OF FITTINGS, OR FITTINGS AND FLANGES ARE SHOWN ON THE BASIS OF THE NET SUM OF THE NOMINAL DIMENSIONS OF THE PIPE COMPONENTS.
7. THE BENDING RADIUS OF PULLED BENDS SHALL NOT BE LESS THAN 5 x D (D=NOMINAL PIPE SIZE).
8. UNLESS NOTED ON ISOMETRIC, ORIENTATION OF SPECTACLE BLINDS SHALL BE AS FOLLOWS:
   (a) SPECTACLE BLINDS IN HORIZONTAL LINES : UP
   (b) SPECTACLE BLINDS IN VERTICAL LINES : AS SHOWN IN PIPING GENERAL ARRANGEMENT DWG.
9. IN GENERAL THE MATERIAL FOR WELDED FLOOR STANDS AND WELDED DUMMY SUPPORTS IS INCLUDED IN THE 'LIST OF MATERIAL' OF THE PIPELINE CONCERNED.
10. LOCATION OF PIPE SUPPORTS ARE SHOWN WITH PIPE SUPPORT NOS. ON PIPING ARRANGEMENT DRAWINGS. AND FOR PIPE ATTACHMENTS SUCH AS SHOES, TRUNNIONS AND DUMMIES ETC. REFER LIST OF DRAWING NO. **NIM - 2 - 1842 - 001- DQ, NIM - 2 - 1842 - 001- DQ**
11. FOR PE LINING DETAILS REFER SHEET NO. 008
12. DRAWING NO. FOR BILL OF MATERIAL SHEET IS NOTED ON ISOMETRIC. ALSO REFER ISO-INDEX WHICH GIVES LINE WISE ISO SHEET NO. & MTO SHEET NO. REFER LINE LIST FOR PEFS NO. AND DESCRIPTION OF "FROM" & "TO"
13. FOR INSULATED LINES REFER SPEC. DEP.30.46.00.31.GEN.
14. PIPE MATERIAL CONNECTED TO EQUIPMENT (LOOSE MATERIAL LIKE VENTS, DRAINS, PRESSURE CONNECTIONS AND STAND PIPE ETC.) ARE SHOWN ON ISOMETRIC DRAWINGS AS VESSEL TRIM.
15. ITEMS HAVING RATINGS NOT IN LINE WITH PIPE CLASS ARE CALLED OUT.
16. HANDWHEEL / WRENCH ORIENTATION FOR THE 2" AND ABOVE VALVES REFER PIPING PLAN,
17. CHAMFER OF 15° AS SHOWN BELOW SHALL BE APPLIED IN CASE OF PIPE CLASS CHANGE. ALL OTHER WELD-END PREPARATIONS SHALL BE IN ACCORDANCE WITH APPLICABLE ASME AND/OR ANSI STANDARD.



18. PIPE SUPPORTS AND DIMENSIONS MARKED WITH CLOUD ARE UNDER HOLD AWAITING VENDOR INFORMATION.
19. FOR STANDARD SYMBOLS REFER SHEET NO.010
20 PIPE FABRICATION AND TESTING SHALL BE AS PER THE FOLLOWNG SP & DEP'S.
   SP-1173 SPECIFICATION FOR WELDING OF ON-PLOT PIPE WORK (AMMENDMENTS/SUPPLEMENTS TO ASME B31.3).
   SP-1176 NON-DESTRUCTIVE EXAMINATION(AMMENDMENTS/SUPPLEMENTS TO ASME BPV CODE SECTION V).
   SP-2051 SPECIFICATION FOR FLUSHING, PRESSURE TESTING, PICKLING AND SENSITIVE LEAK TESTING OF MECHANICAL EQUIPMENT AND PIPING.
   SP-2020 FLANGE CONNECTIONS-BOLTING TORQUING AND TENSIONING.
   SP-1246 SPECIFICATION FOR PAINTING & COATING OF OIL AND GAS PRODUCTION FACILITIES.
   DEP 31.38.01.31 SHOP AND FIELD FABRICATION OF PIPING.

APPROVED FOR CONSTRUCTION

AREA	: NIMR
SUB AREA	: NIMR SLUDGE PIT — NO. 05
DWG.TYPE	: ISOMETRICS AND MTO
DESCRIPTION	: GENERAL NOTES

SCALE : NTS — CAD DRAWING — 0 1 2 3 4 5 6 7

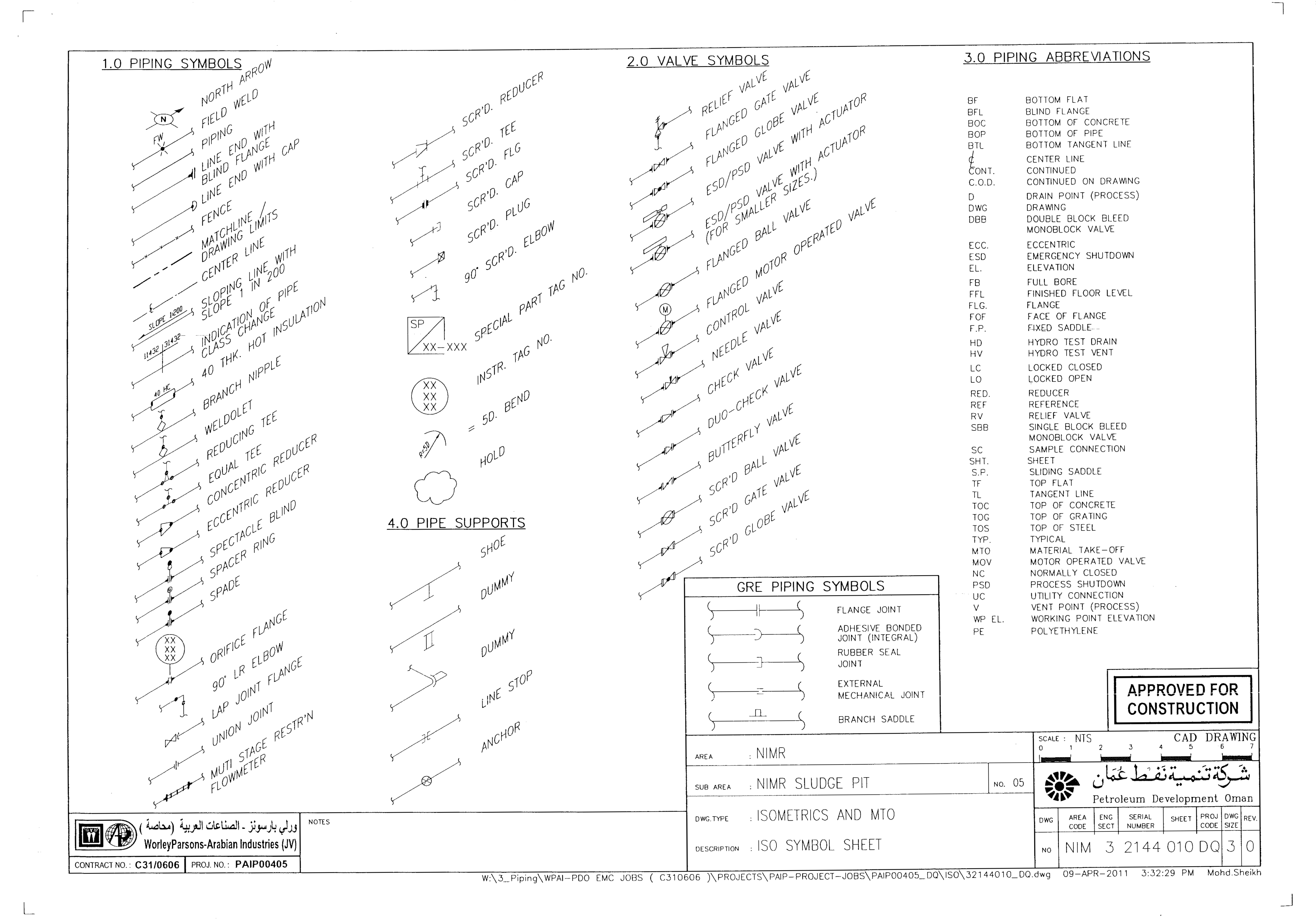
شركة تنمية نفط عمان
Petroleum Development Oman

DWG.	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	3	2144	009	DQ	3	0

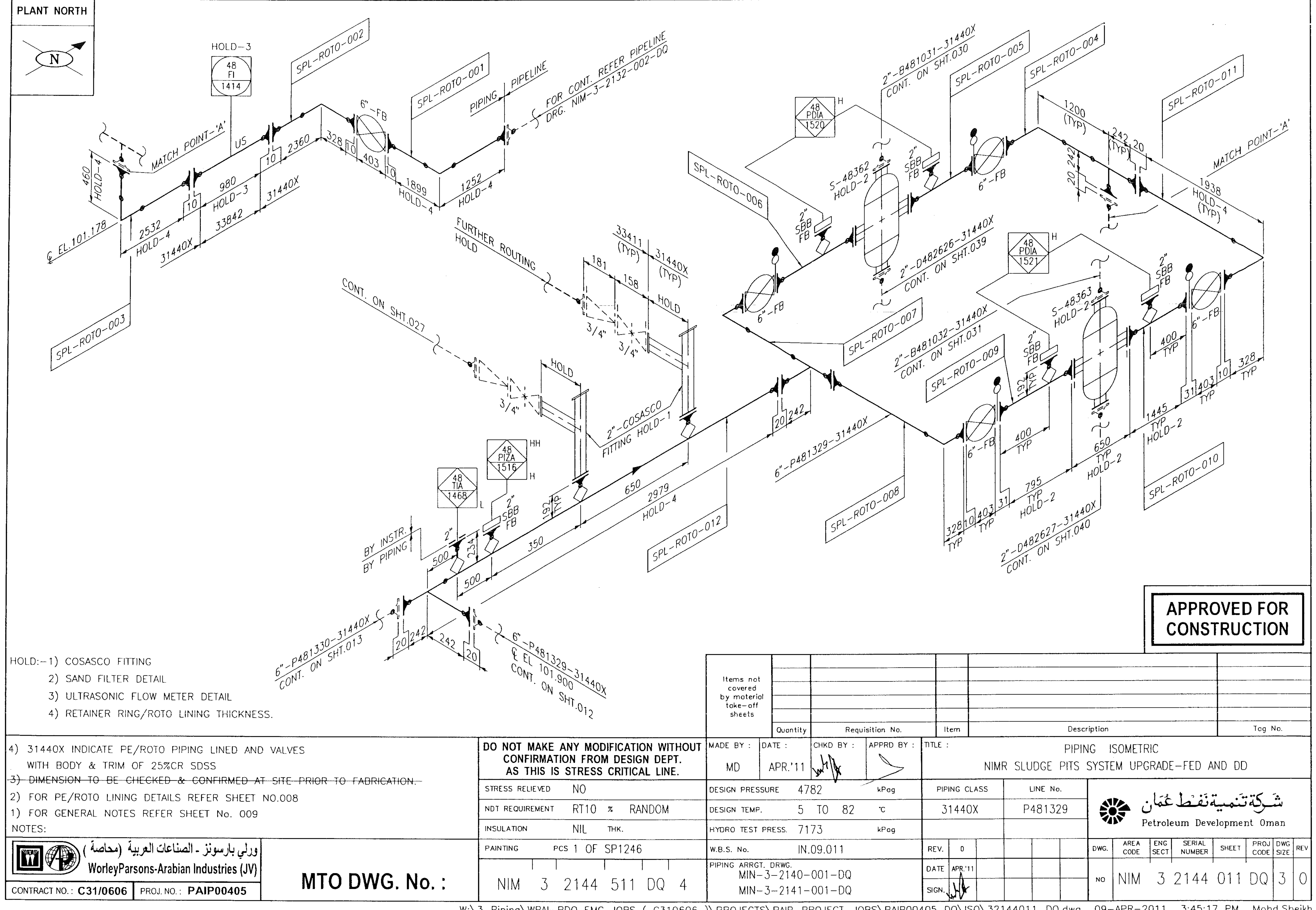
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)

CONTRACT NO.: **C31/0606** | PROJ. NO.: **PAIP00405**

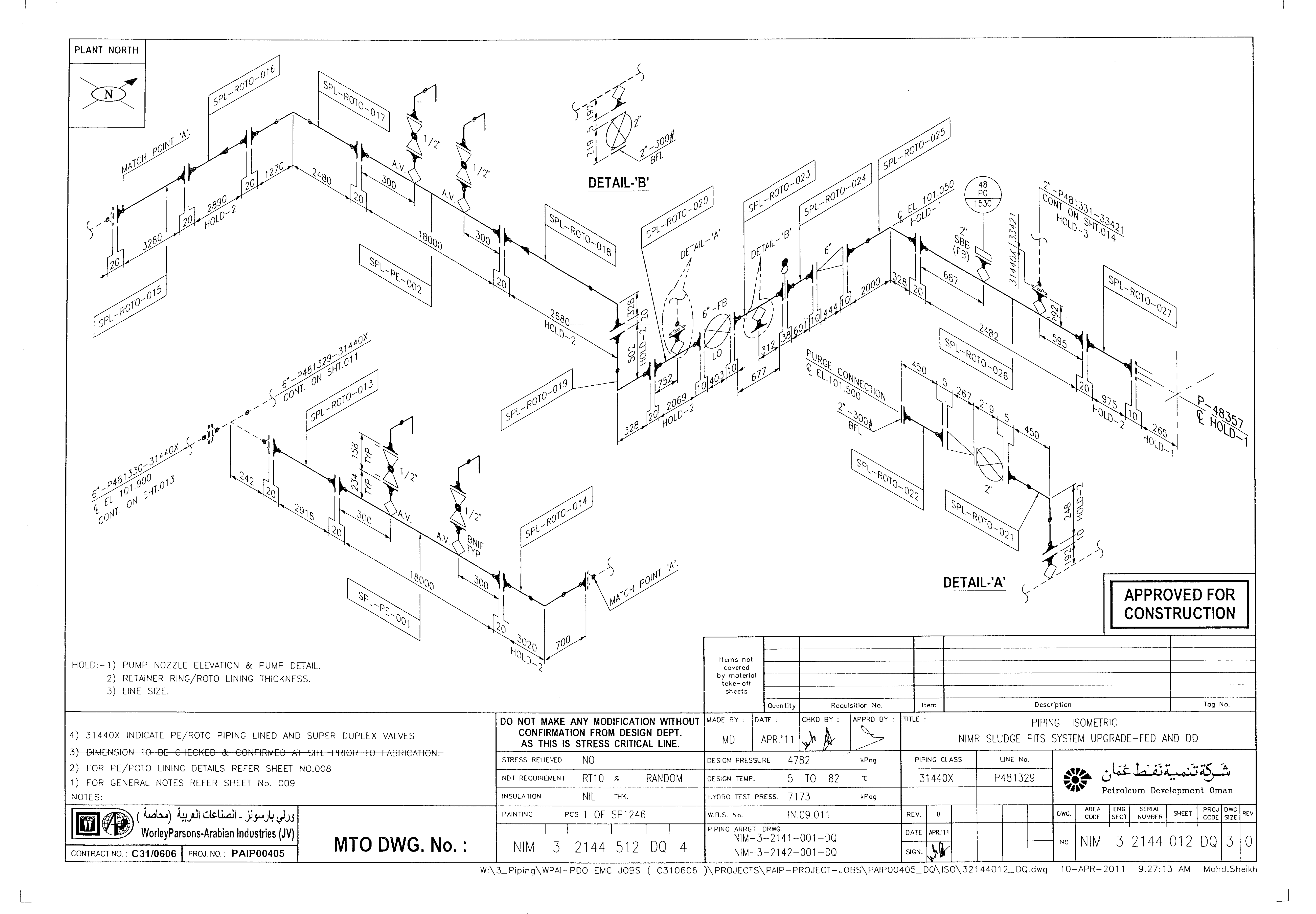
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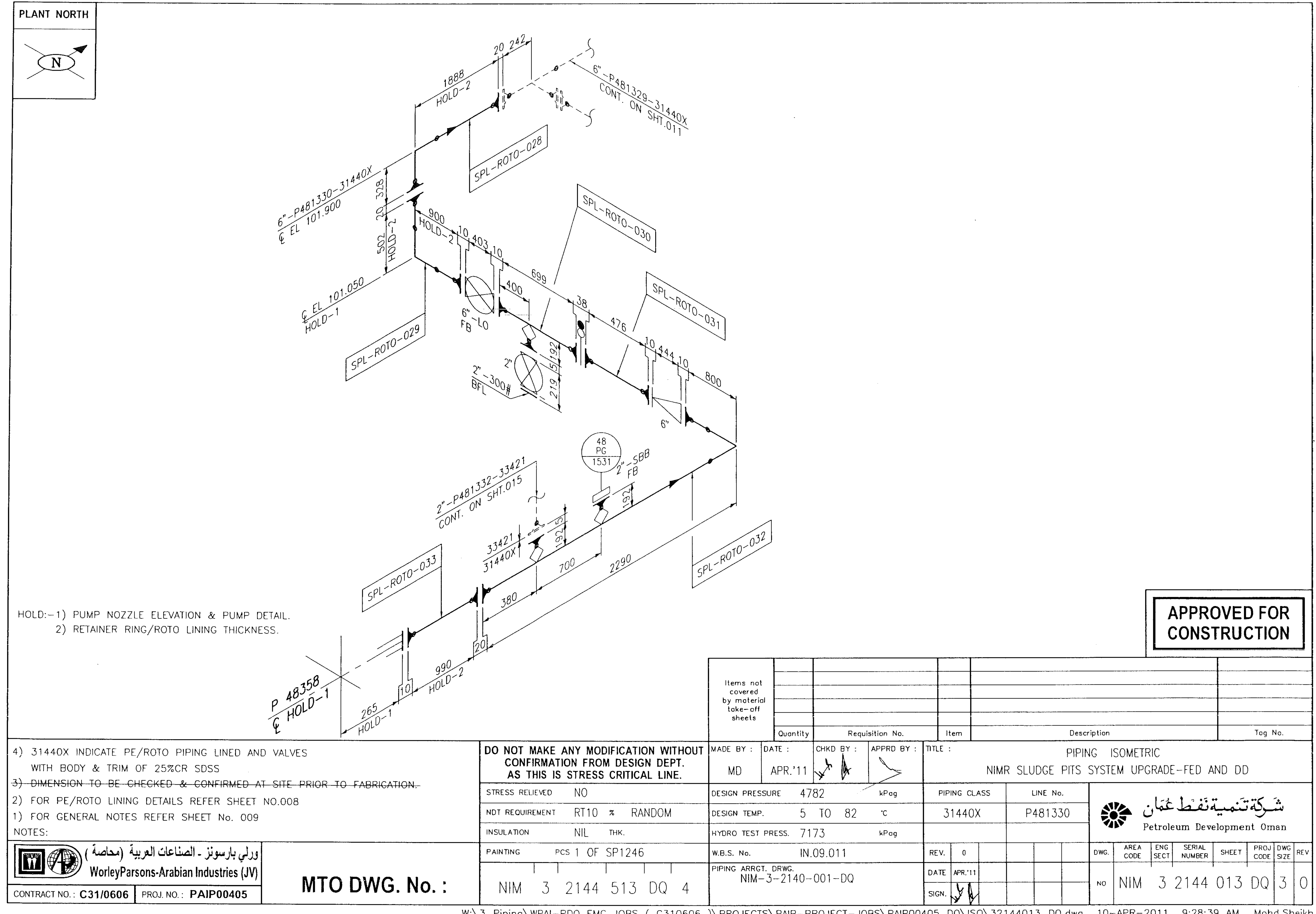


1.0 PIPING SYMBOLS
NORTH ARROW
N
FIELD WELD
FW
PIPING
LINE END WITH BLIND FLANGE
LINE END WITH CAP
FENCE
MATCHLINE / DRAWING LIMITS
CENTER LINE
SLOPING LINE WITH SLOPE 1 IN 200
SLOPE 1:200
INDICATION OF PIPE CLASS CHANGE
11432 31432
40 THK. HOT INSULATION
40 HC
BRANCH NIPPLE
WELDOLET
REDUCING TEE
EQUAL TEE
CONCENTRIC REDUCER
ECCENTRIC REDUCER
SPECTACLE BLIND
SPACER RING
SPADE
XX XX XX
ORIFICE FLANGE
90° LR ELBOW
LAP JOINT FLANGE
UNION JOINT
MUTI STAGE RESTR'N FLOWMETER
SCR'D. REDUCER
SCR'D. TEE
SCR'D. FLG
SCR'D. CAP
SCR'D. PLUG
90° SCR'D. ELBOW
SP
XX-XXX
SPECIAL PART TAG NO.
XX XX XX
INSTR. TAG NO.
R=5D
= 5D. BEND
HOLD
4.0 PIPE SUPPORTS
SHOE
DUMMY
DUMMY
LINE STOP
ANCHOR
2.0 VALVE SYMBOLS
RELIEF VALVE
FLANGED GATE VALVE
FLANGED GLOBE VALVE
ESD/PSD VALVE WITH ACTUATOR
ESD/PSD VALVE WITH ACTUATOR (FOR SMALLER SIZES.)
FLANGED BALL VALVE
FLANGED MOTOR OPERATED VALVE
M
FLANGED CONTROL VALVE
NEEDLE VALVE
CHECK VALVE
DUO-CHECK VALVE
BUTTERFLY VALVE
SCR'D BALL VALVE
SCR'D GATE VALVE
SCR'D GLOBE VALVE
GRE PIPING SYMBOLS
FLANGE JOINT
ADHESIVE BONDED JOINT (INTEGRAL)
RUBBER SEAL JOINT
EXTERNAL MECHANICAL JOINT
BRANCH SADDLE
3.0 PIPING ABBREVIATIONS
BF BOTTOM FLAT
BFL BLIND FLANGE
BOC BOTTOM OF CONCRETE
BOP BOTTOM OF PIPE
BTL BOTTOM TANGENT LINE
℄ CENTER LINE
CONT. CONTINUED
C.O.D. CONTINUED ON DRAWING
D DRAIN POINT (PROCESS)
DWG DRAWING
DBB DOUBLE BLOCK BLEED MONOBLOCK VALVE
ECC. ECCENTRIC
ESD EMERGENCY SHUTDOWN
EL. ELEVATION
FB FULL BORE
FFL FINISHED FLOOR LEVEL
FLG. FLANGE
FOF FACE OF FLANGE
F.P. FIXED SADDLE
HD HYDRO TEST DRAIN
HV HYDRO TEST VENT
LC LOCKED CLOSED
LO LOCKED OPEN
RED. REDUCER
REF REFERENCE
RV RELIEF VALVE
SBB SINGLE BLOCK BLEED MONOBLOCK VALVE
SC SAMPLE CONNECTION
SHT. SHEET
S.P. SLIDING SADDLE
TF TOP FLAT
TL TANGENT LINE
TOC TOP OF CONCRETE
TOG TOP OF GRATING
TOS TOP OF STEEL
TYP. TYPICAL
MTO MATERIAL TAKE-OFF
MOV MOTOR OPERATED VALVE
NC NORMALLY CLOSED
PSD PROCESS SHUTDOWN
UC UTILITY CONNECTION
V VENT POINT (PROCESS)
WP EL. WORKING POINT ELEVATION
PE POLYETHYLENE
APPROVED FOR CONSTRUCTION
SCALE : NTS
CAD DRAWING
0 1 2 3 4 5 6 7
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DWG. TYPE : ISOMETRICS AND MTO
DESCRIPTION : ISO SYMBOL SHEET
شركة تنمية نفط عمان
Petroleum Development Oman
DWG NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NIM 3 2144 010 DQ 3 0
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
NOTES
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
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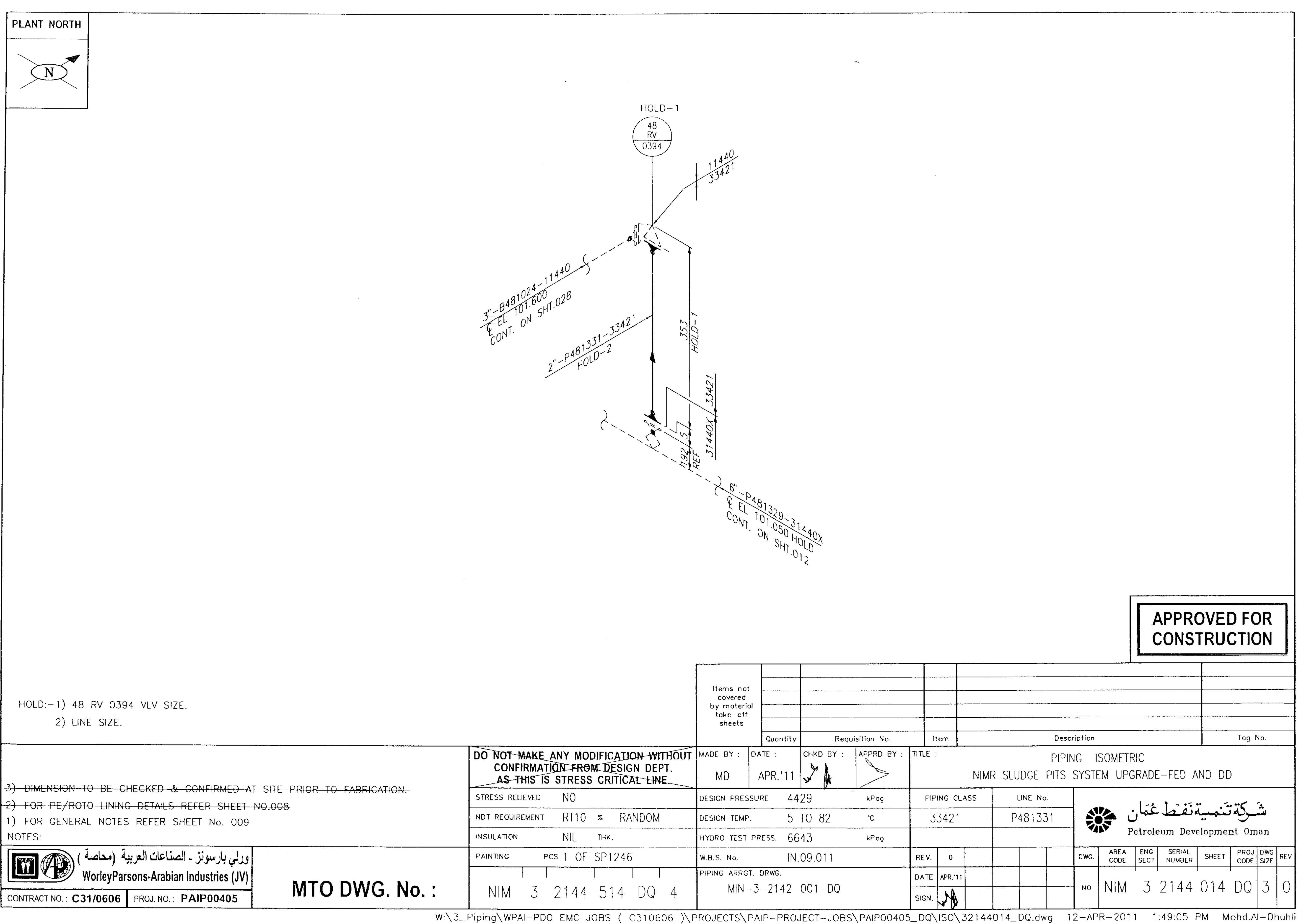


PLANT NORTH
N
HOLD-3
48 FI 1414
SPL-ROTO-001
SPL-ROTO-002
SPL-ROTO-003
SPL-ROTO-004
SPL-ROTO-005
SPL-ROTO-006
SPL-ROTO-007
SPL-ROTO-008
SPL-ROTO-009
SPL-ROTO-010
SPL-ROTO-011
SPL-ROTO-012
PIPING | PIPELINE
FOR CONT. REFER PIPELINE DRG. NIM-3-2132-002-DQ
MATCH POINT-'A'
℄ EL.101.178
6"-FB
2"-B481031-31440X CONT. ON SHT.030
2"-D482626-31440X CONT. ON SHT.039
2"-B481032-31440X CONT. ON SHT.031
2"-D482627-31440X CONT. ON SHT.040
6"-P481329-31440X
6"-P481330-31440X CONT. ON SHT.013
6"-P481329-31440X ℄ EL 101.900 CONT. ON SHT.012
CONT. ON SHT.027
FURTHER ROUTING HOLD
2"-COSASCO FITTING HOLD-1
48 PDIA 1520
48 PDIA 1521
48 PIZA 1516
48 TIA 1468
S-48362 HOLD-2
S-48363 HOLD-2
2" SBB FB
BY INSTR. BY PIPING
APPROVED FOR CONSTRUCTION
HOLD:- 1) COSASCO FITTING
2) SAND FILTER DETAIL
3) ULTRASONIC FLOW METER DETAIL
4) RETAINER RING/ROTO LINING THICKNESS.
4) 31440X INDICATE PE/ROTO PIPING LINED AND VALVES WITH BODY & TRIM OF 25%CR SDSS
~~3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.~~
2) FOR PE/ROTO LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
Items not covered by material take-off sheets
Quantity | Requisition No. | Item | Description | Tag No.
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE.
MADE BY : MD | DATE : APR.'11 | CHKD BY : | APPRD BY :
TITLE : PIPING ISOMETRIC NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
STRESS RELIEVED NO
NDT REQUIREMENT RT10 % RANDOM
INSULATION NIL THK.
PAINTING PCS 1 OF SP1246
DESIGN PRESSURE 4782 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 7173 kPag
W.B.S. No. IN.09.011
PIPING ARRGT. DRWG. MIN-3-2140-001-DQ MIN-3-2141-001-DQ
PIPING CLASS 31440X
LINE No. P481329
REV. 0
DATE APR.'11
SIGN.
شركة تنمية نفط عمان
Petroleum Development Oman
DWG. NO | AREA CODE | ENG SECT | SERIAL NUMBER | SHEET | PROJ CODE | DWG SIZE | REV
NIM 3 2144 011 DQ 3 0
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405
MTO DWG. No. :
NIM 3 2144 511 DQ 4
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PLANT NORTH
N
MATCH POINT 'A'
SPL-ROTO-015
SPL-ROTO-016
SPL-ROTO-017
SPL-ROTO-018
SPL-ROTO-019
SPL-ROTO-020
SPL-ROTO-021
SPL-ROTO-022
SPL-ROTO-023
SPL-ROTO-024
SPL-ROTO-025
SPL-ROTO-026
SPL-ROTO-027
SPL-ROTO-013
SPL-ROTO-014
SPL-PE-001
SPL-PE-002
A.V.
1/2"
BNIF TYP
DETAIL-'A'
DETAIL-'B'
2"-300# BFL
6"-FB
LO
2" SBB (FB)
48 PG 1530
℄ EL 101.050 HOLD-1
2"-P481331-33421 CONT ON SHT.014 HOLD-3
31440X/33421
P-48357 ℄ HOLD-1
PURGE CONNECTION ℄ EL.101.500
6"-P481329-31440X CONT. ON SHT.011
6"-P481330-31440X ℄ EL 101.900 CONT. ON SHT.013
HOLD-2
APPROVED FOR CONSTRUCTION
HOLD:-1) PUMP NOZZLE ELEVATION & PUMP DETAIL.
2) RETAINER RING/ROTO LINING THICKNESS.
3) LINE SIZE.
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
4) 31440X INDICATE PE/ROTO PIPING LINED AND SUPER DUPLEX VALVES
~~3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.~~
2) FOR PE/POTO LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE.
MADE BY : MD
DATE : APR.'11
CHKD BY :
APPRD BY :
TITLE : PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
STRESS RELIEVED NO
NDT REQUIREMENT RT10 % RANDOM
INSULATION NIL THK.
PAINTING PCS 1 OF SP1246
DESIGN PRESSURE 4782 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 7173 kPag
W.B.S. No. IN.09.011
PIPING ARRGT. DRWG. NIM-3-2141-001-DQ
NIM-3-2142-001-DQ
PIPING CLASS 31440X
LINE No. P481329
شركة تنمية نفط عمان
Petroleum Development Oman
REV. 0
DATE APR.'11
SIGN.
DWG. NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV
NIM 3 2144 012 DQ 3 0
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
MTO DWG. No. :
NIM 3 2144 512 DQ 4
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PLANT NORTH
N
6"-P481329-31440X
CONT. ON SHT.011
20 242
1888
HOLD-2
SPL-ROTO-028
6"-P481330-31440X
℄ EL 101.900
20 328
502 HOLD-2
900
HOLD-2
10 403 10
SPL-ROTO-030
699
400
℄ EL 101.050
HOLD-1
6" FB -LO
SPL-ROTO-029
38
476
SPL-ROTO-031
10 444 10
800
2" 2"-300# BFL
219 51 192
6"
48 PG 1531
2"-SBB FB
192
2"-P481332-33421
CONT. ON SHT.015
33421 31440X
192.5
700
2290
SPL-ROTO-033
SPL-ROTO-032
380
20
990
HOLD-2
10
265
HOLD-1
P 48358
℄ HOLD-1
HOLD:-1) PUMP NOZZLE ELEVATION & PUMP DETAIL.
2) RETAINER RING/ROTO LINING THICKNESS.
APPROVED FOR CONSTRUCTION
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
4) 31440X INDICATE PE/ROTO PIPING LINED AND VALVES
WITH BODY & TRIM OF 25%CR SDSS
~~3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.~~
2) FOR PE/ROTO LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE.
MADE BY : MD
DATE : APR.'11
CHKD BY :
APPRD BY :
TITLE : PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
STRESS RELIEVED NO
NDT REQUIREMENT RT10 % RANDOM
INSULATION NIL THK.
PAINTING PCS 1 OF SP1246
DESIGN PRESSURE 4782 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 7173 kPag
W.B.S. No. IN.09.011
PIPING ARRGT. DRWG. NIM-3-2140-001-DQ
PIPING CLASS 31440X
LINE No. P481330
REV. 0
DATE APR.'11
SIGN.
شركة تنمية نفط عمان
Petroleum Development Oman
DWG. NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV
NIM 3 2144 013 DQ 3 0
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
MTO DWG. No. :
NIM 3 2144 513 DQ 4
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\ISO\32144013_DQ.dwg 10-APR-2011 9:28:39 AM Mohd.Sheikh



Items not covered by material take-off sheets	Quantity	Requisition No.	Item	Description	Tag No.

~~3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.~~
~~2) FOR PE/ROTO LINING DETAILS REFER SHEET NO.008~~
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:

~~DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE.~~

MADE BY :	DATE :	CHKD BY :	APPRD BY :	TITLE :
MD	APR.'11			PIPING ISOMETRIC NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD

STRESS RELIEVED	NO	DESIGN PRESSURE	4429 kPag	PIPING CLASS	LINE No.
NDT REQUIREMENT	RT10 % RANDOM	DESIGN TEMP.	5 TO 82 °C	33421	P481331
INSULATION	NIL THK.	HYDRO TEST PRESS.	6643 kPag		
PAINTING	PCS 1 OF SP1246	W.B.S. No.	IN.09.011	REV.	0
	NIM 3 2144 514 DQ 4	PIPING ARRGT. DRWG.	MIN-3-2142-001-DQ	DATE	APR.'11
				SIGN.	

شركة تنمية نفط عمان
Petroleum Development Oman

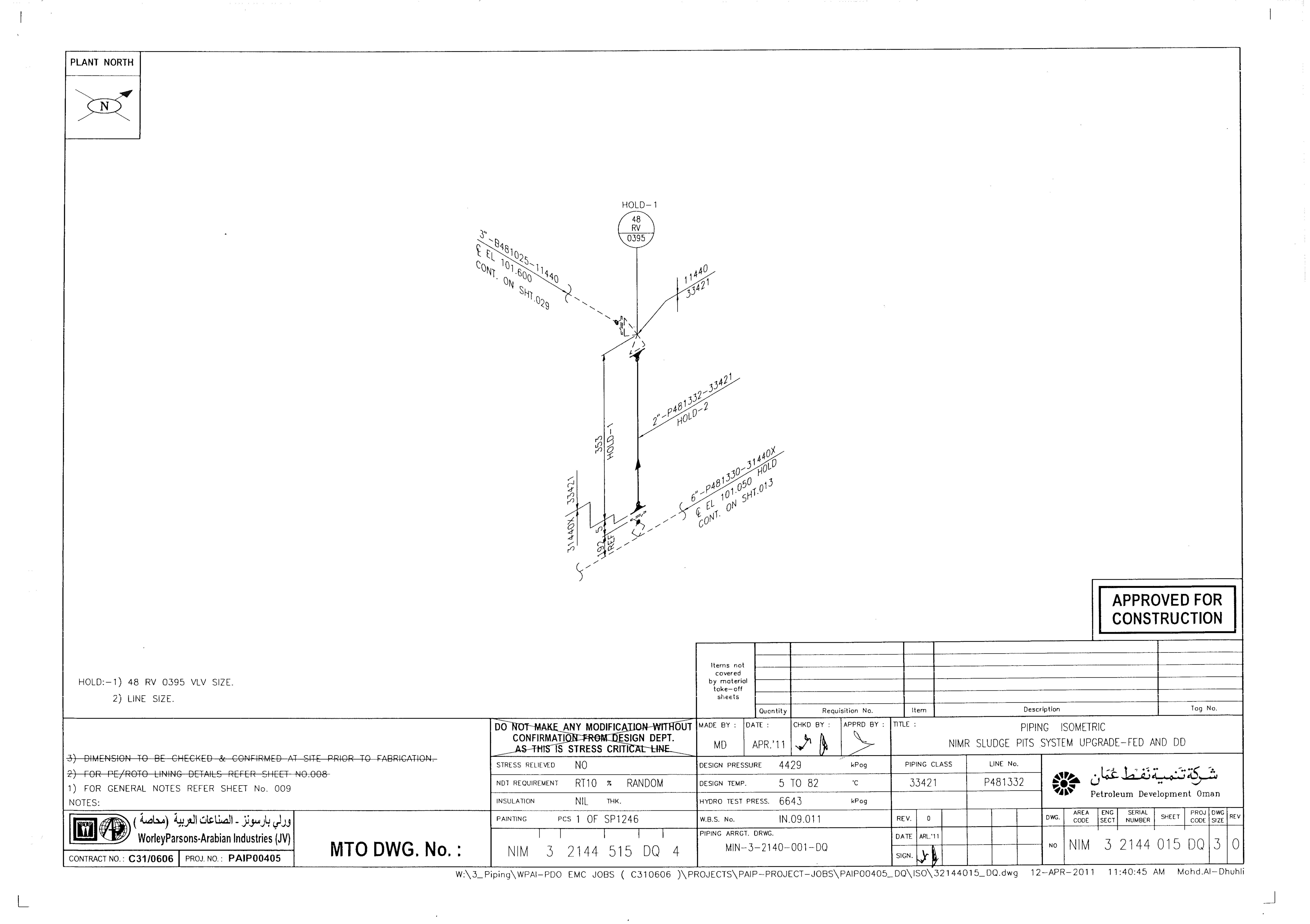
DWG.	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV
NO	NIM	3	2144	014	DQ	3	0

وورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

MTO DWG. No. :

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HOLD:-1) 48 RV 0395 VLV SIZE.
2) LINE SIZE.

Items not covered by material take-off sheets	Quantity	Requisition No.	Item	Description	Tag No.

~~3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.~~
~~2) FOR PE/ROTO LINING DETAILS REFER SHEET NO.008~~
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:

DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE

MADE BY :	DATE :	CHKD BY :	APPRD BY :	TITLE :
MD	APR.'11			PIPING ISOMETRIC NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD

STRESS RELIEVED	NO	DESIGN PRESSURE	4429 kPag	
NDT REQUIREMENT	RT10 % RANDOM	DESIGN TEMP.	5 TO 82 °C	
INSULATION	NIL THK.	HYDRO TEST PRESS.	6643 kPag	
PAINTING	PCS 1 OF SP1246	W.B.S. No.	IN.09.011	
	NIM 3 2144 515 DQ 4	PIPING ARRGT. DRWG.	MIN-3-2140-001-DQ	

PIPING CLASS	LINE No.
33421	P481332

شركة تنمية نفط عمان
Petroleum Development Oman

REV.	0
DATE	ARL.'11
SIGN.	

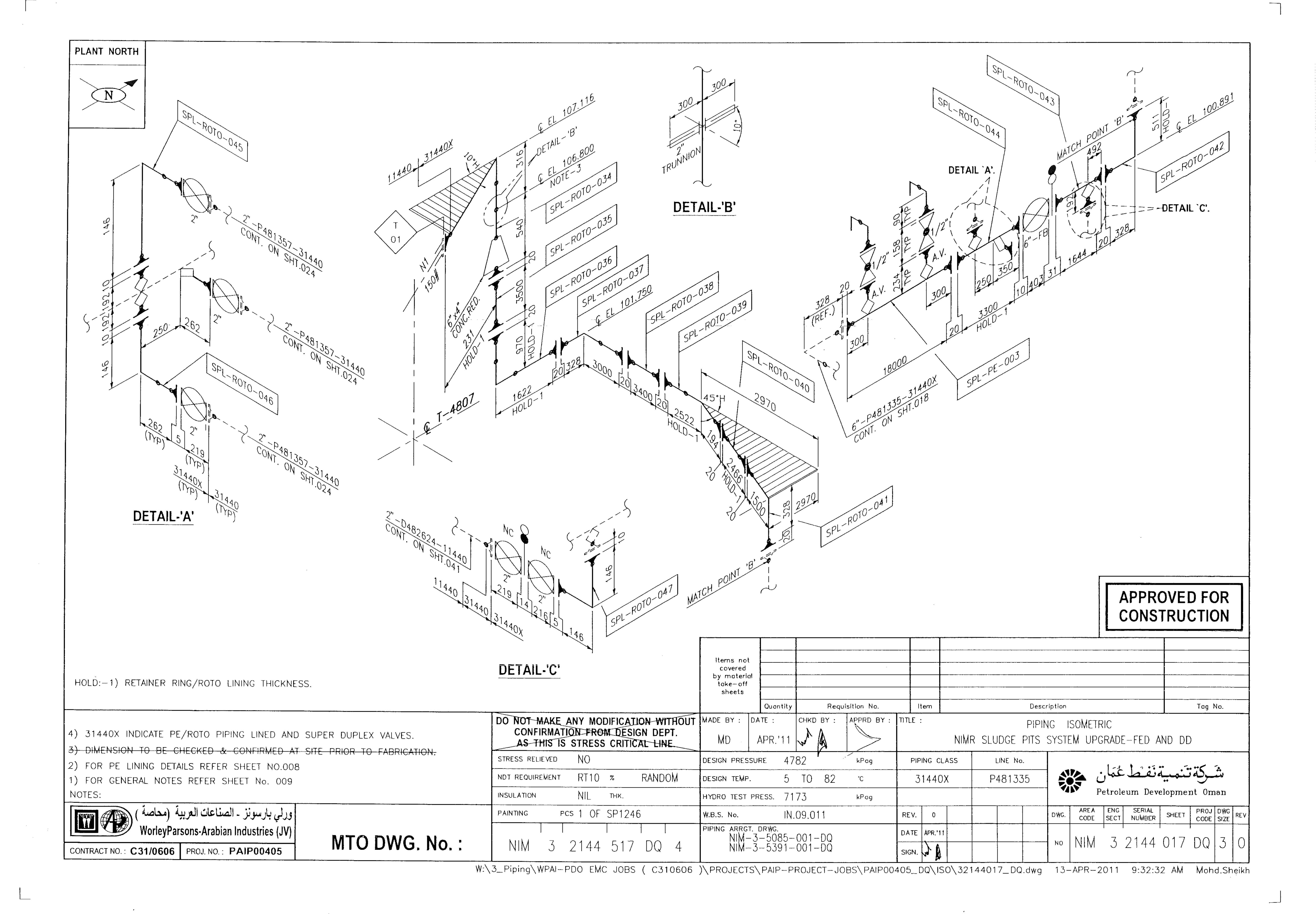
DWG. NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV
NIM	3	2144	015		DQ	3	0

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)

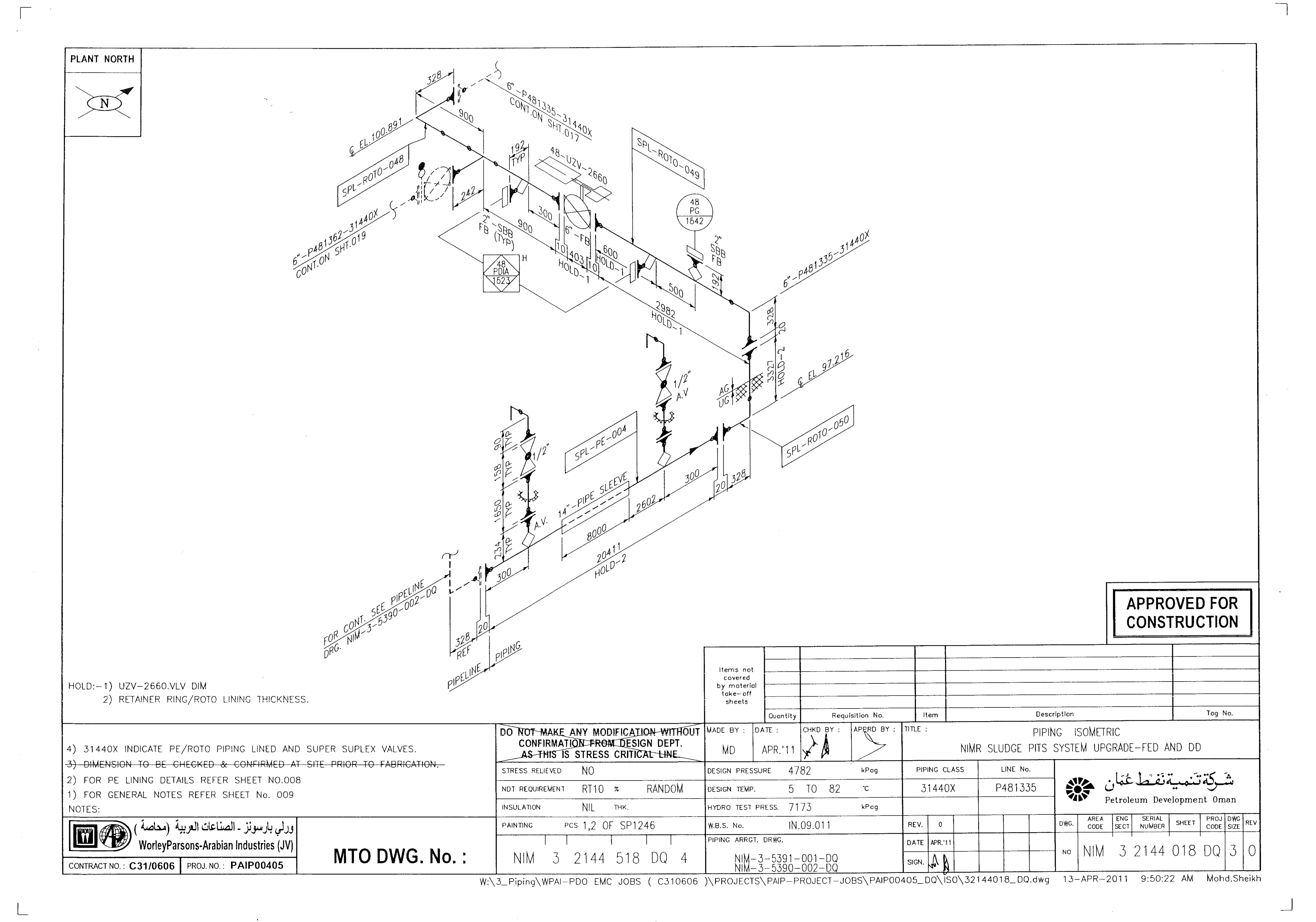
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MTO DWG. No. :

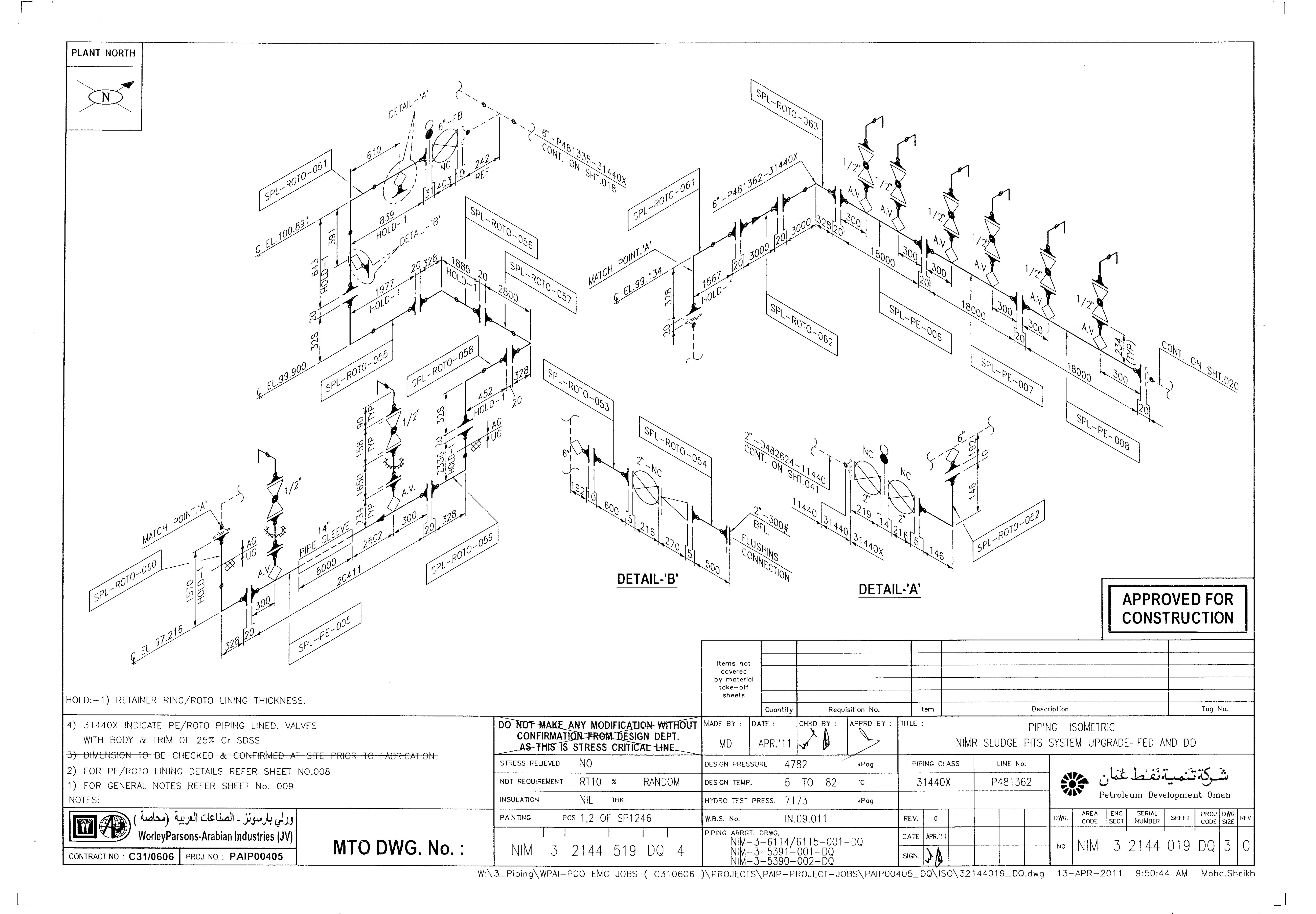
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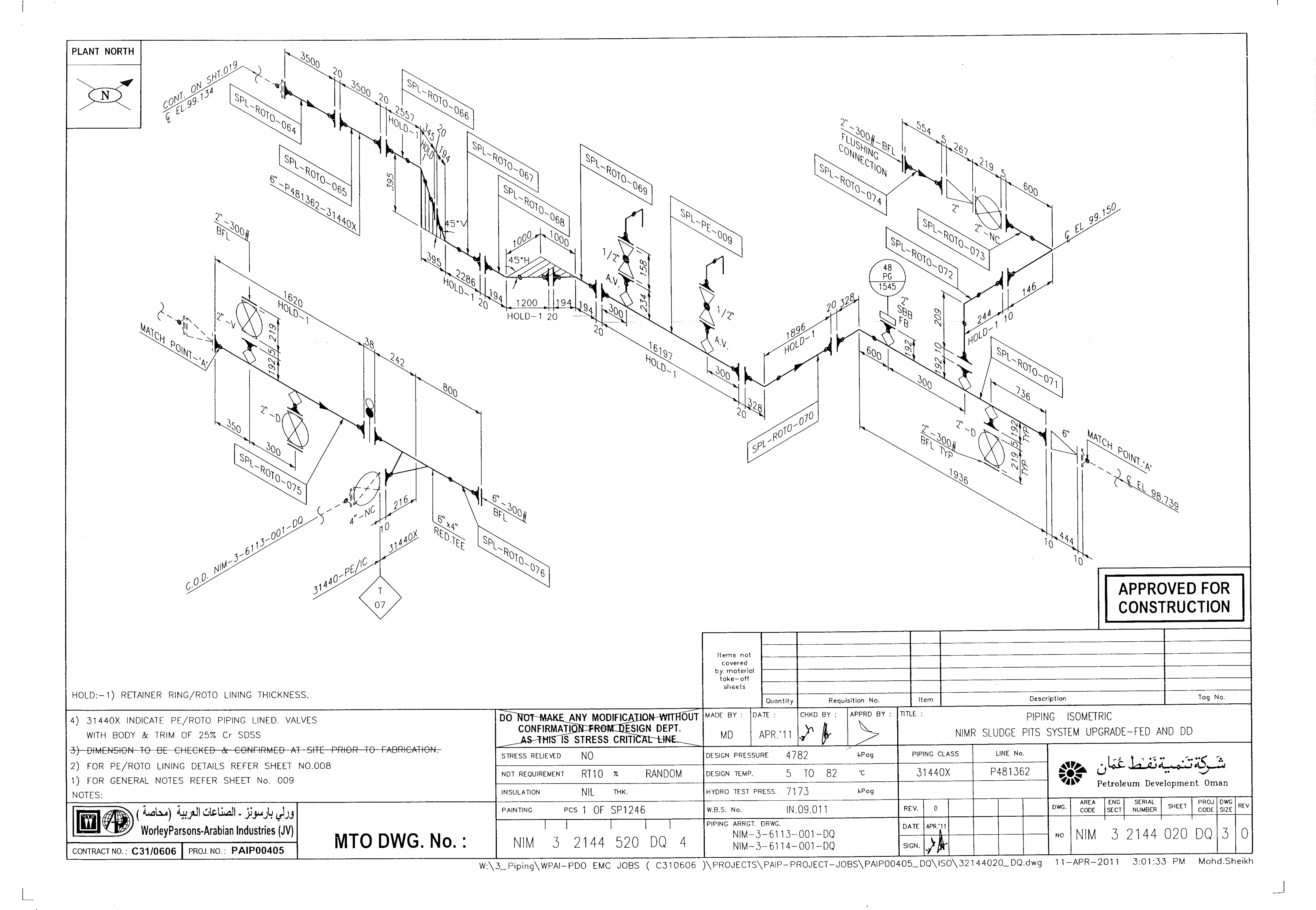
PLANT NORTH
N
DETAIL-'A'
DETAIL-'B'
DETAIL-'C'
DETAIL 'A'.
DETAIL 'C'.
SPL-ROTO-045
SPL-ROTO-046
SPL-ROTO-034
SPL-ROTO-035
SPL-ROTO-036
SPL-ROTO-037
SPL-ROTO-038
SPL-ROTO-039
SPL-ROTO-040
SPL-ROTO-041
SPL-ROTO-042
SPL-ROTO-043
SPL-ROTO-044
SPL-ROTO-047
SPL-PE-003
2"-P481357-31440 CONT. ON SHT.024
6"-P481335-31440X CONT. ON SHT.018
2"-D482624-11440 CONT. ON SHT.041
℄ EL 107.116
℄ EL 106.800
NOTE-3
℄ EL 101.750
℄ EL 100.891
℄ T-4807
DETAIL-'B'
6"x4" CONC.RED.
N1 150#
2" TRUNNION
MATCH POINT 'B'
HOLD-1
A.V.
6"-FB
NC
HOLD:-1) RETAINER RING/ROTO LINING THICKNESS.
APPROVED FOR CONSTRUCTION
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
4) 31440X INDICATE PE/ROTO PIPING LINED AND SUPER DUPLEX VALVES.
3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.
2) FOR PE LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE.
STRESS RELIEVED NO
NDT REQUIREMENT RT10 % RANDOM
INSULATION NIL THK.
PAINTING PCS 1 OF SP1246
MADE BY : MD
DATE : APR.'11
CHKD BY :
APPRD BY :
DESIGN PRESSURE 4782 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 7173 kPag
W.B.S. No. IN.09.011
PIPING ARRGT. DRWG. NIM-3-5085-001-DQ NIM-3-5391-001-DQ
TITLE : PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
PIPING CLASS 31440X
LINE No. P481335
شركة تنمية نفط عمان
Petroleum Development Oman
REV. 0
DATE APR.'11
SIGN.
DWG. NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV
NIM 3 2144 017 DQ 3 0
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
MTO DWG. No. :
NIM 3 2144 517 DQ 4
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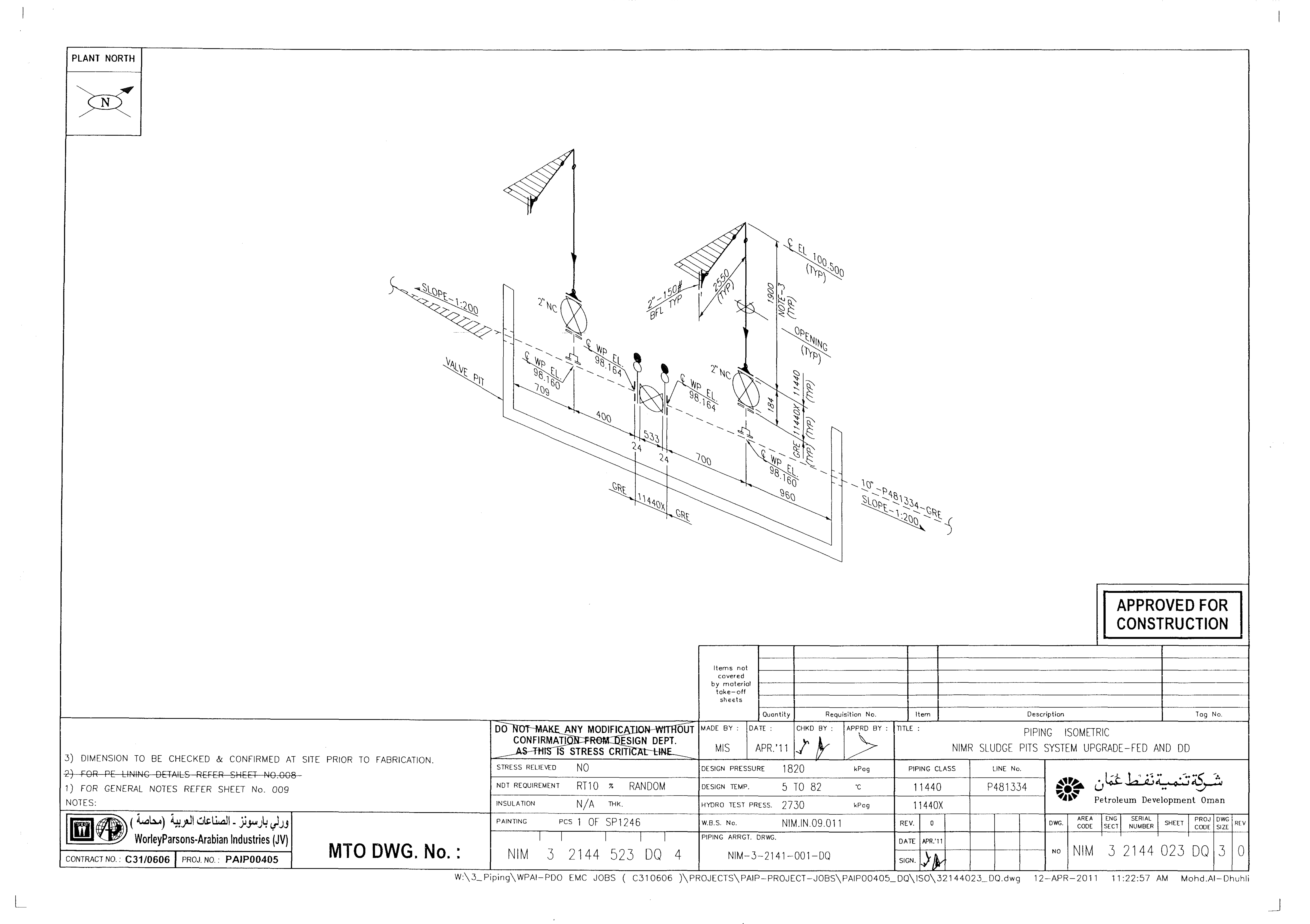
PLANT NORTH
N
328
6"-P481335-31440X
CONT.ON SHT.017
900
℄ EL.100.891
SPL-ROTO-048
242
6"-P481362-31440X
CONT.ON SHT.019
192
TYP
48-UZV-2660
SPL-ROTO-049
48
PG
1542
2"-SBB
FB (TYP)
900
300
6"-FB
48
PDIA
1523
H
10
403
10
HOLD-1
600
HOLD-1
500
2"
SBB
FB
192
2982
HOLD-1
6"-P481335-31440X
328
20
3321
HOLD-2
℄ EL 97.216
AG
UG
1/2"
A.V
SPL-ROTO-050
SPL-PE-004
90
TYP
158
TYP
1/2"
1650
TYP
234
TYP
A.V.
14"-PIPE SLEEVE
8000
2602
300
20
328
20411
HOLD-2
300
FOR CONT. SEE PIPELINE
DRG. NIM-3-5390-002-DQ
328
REF
20
PIPELINE
PIPING
APPROVED FOR
CONSTRUCTION
HOLD:-1) UZV-2660.VLV DIM
2) RETAINER RING/ROTO LINING THICKNESS.
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
4) 31440X INDICATE PE/ROTO PIPING LINED AND SUPER SUPLEX VALVES.
3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.
2) FOR PE LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
MTO DWG. No. :
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE.
STRESS RELIEVED NO
NDT REQUIREMENT RT10 % RANDOM
INSULATION NIL THK.
PAINTING PCS 1,2 OF SP1246
NIM 3 2144 518 DQ 4
MADE BY : MD
DATE : APR.'11
CHKD BY :
APPRD BY :
DESIGN PRESSURE 4782 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 7173 kPag
W.B.S. No. IN.09.011
PIPING ARRGT. DRWG.
NIM-3-5391-001-DQ
NIM-3-5390-002-DQ
TITLE :
PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
PIPING CLASS 31440X
LINE No. P481335
شركة تنمية نفط عمان
Petroleum Development Oman
REV. 0
DATE APR.'11
SIGN.
DWG. NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV
NIM 3 2144 018 DQ 3 0
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\ISO\32144018_DQ.dwg 13-APR-2011 9:50:22 AM Mohd.Sheikh

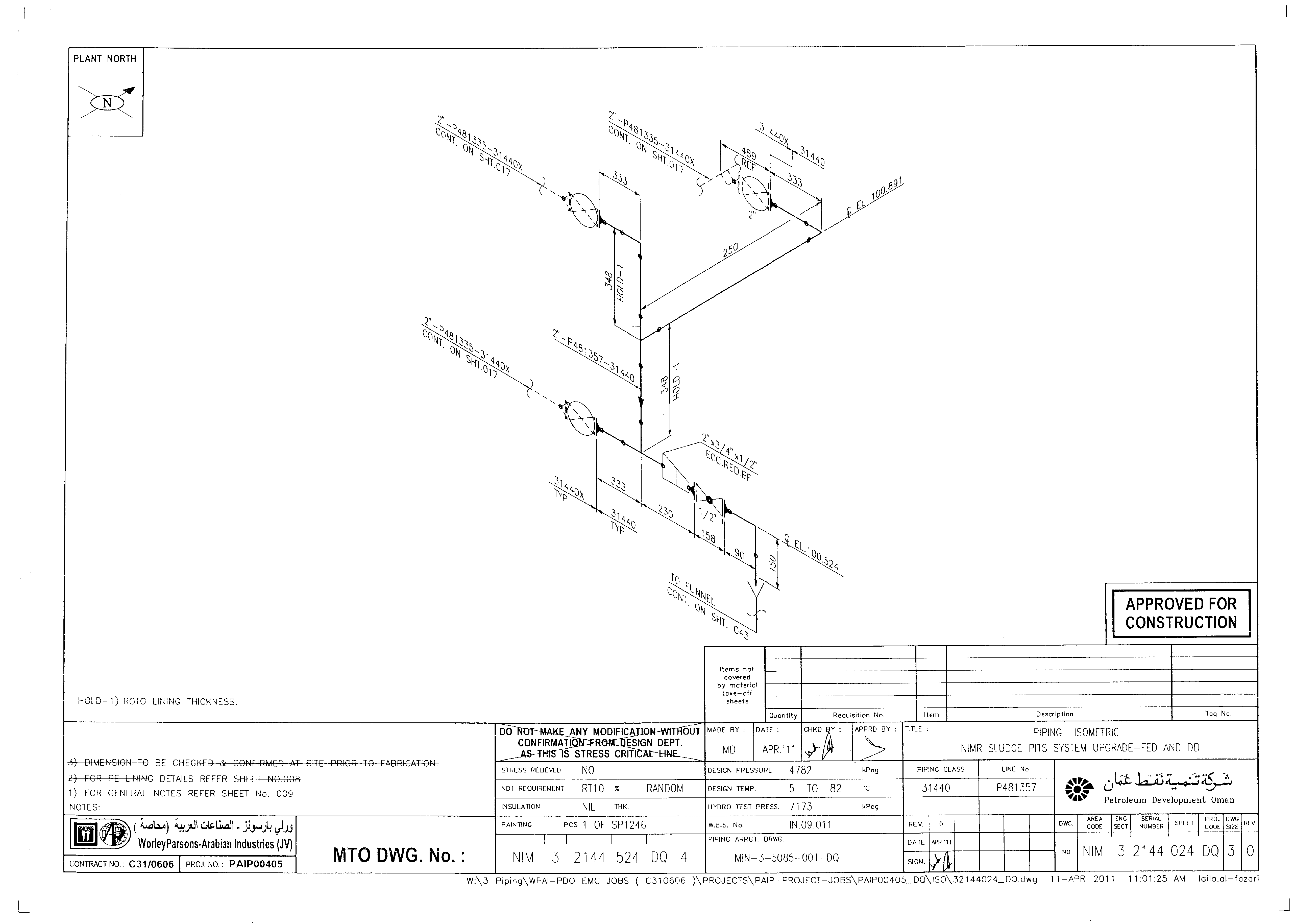


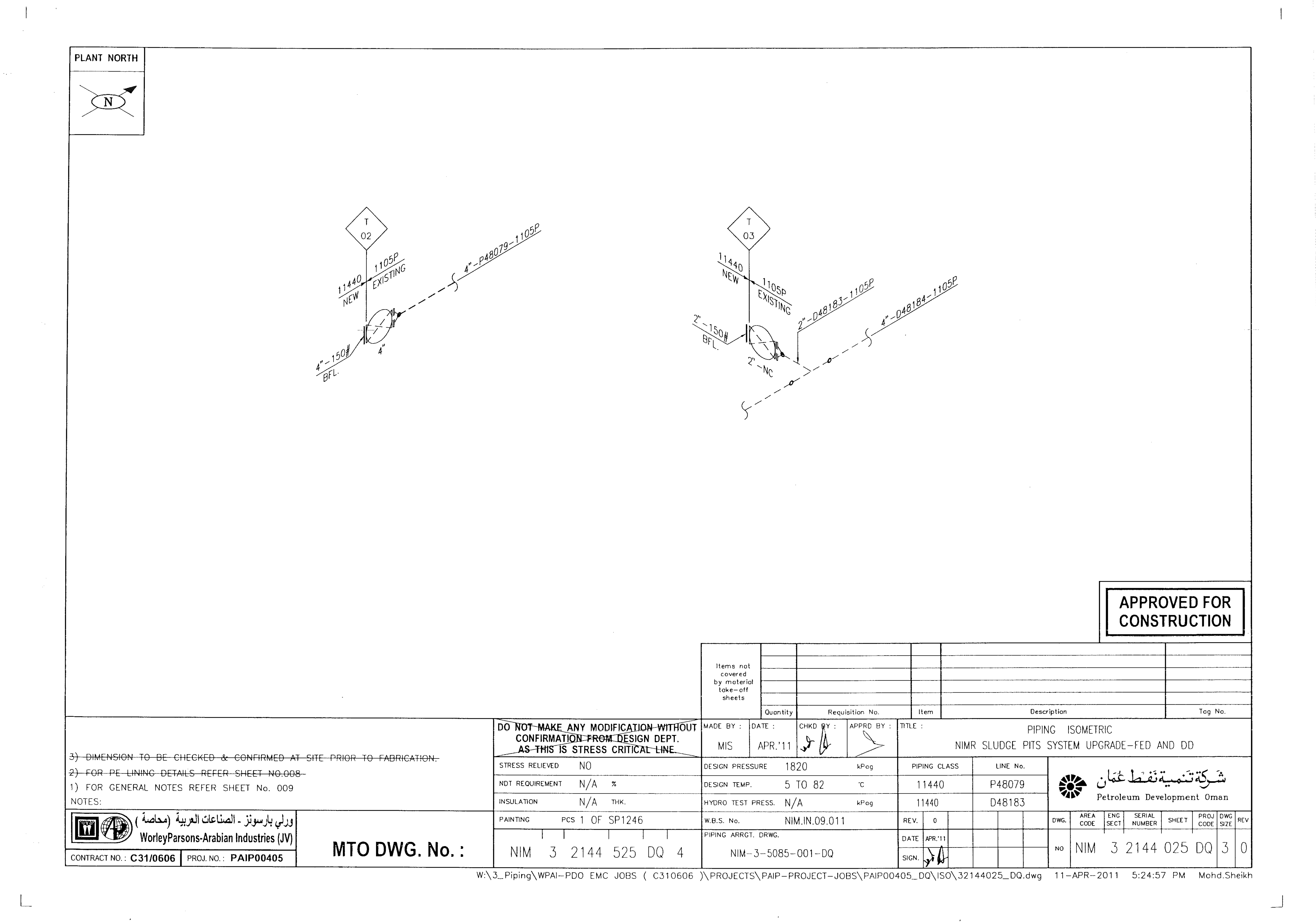
PLANT NORTH
N
DETAIL-'A'
6"-FB
NC
6"-P481335-31440X
CONT. ON SHT.018
SPL-ROTO-051
SPL-ROTO-056
SPL-ROTO-057
SPL-ROTO-055
SPL-ROTO-058
SPL-ROTO-059
SPL-ROTO-060
SPL-PE-005
SPL-ROTO-061
SPL-ROTO-062
SPL-ROTO-063
SPL-PE-006
SPL-PE-007
SPL-PE-008
SPL-ROTO-053
SPL-ROTO-054
SPL-ROTO-052
6"-P481362-31440X
CONT. ON SHT.020
℄ EL.100.891
℄ EL.99.900
℄ EL 97.216
℄ EL.99.134
MATCH POINT.'A'
DETAIL-'B'
HOLD-1
14" PIPE SLEEVE
AG
UG
A.V.
1/2"
TYP
2"-NC
2"-D482624-11440
CONT. ON SHT.041
2"-300# BFL.
FLUSHINS CONNECTION
2"
6"
DETAIL-'B'
DETAIL-'A'
APPROVED FOR CONSTRUCTION
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
HOLD:-1) RETAINER RING/ROTO LINING THICKNESS.
4) 31440X INDICATE PE/ROTO PIPING LINED. VALVES WITH BODY & TRIM OF 25% Cr SDSS
~~3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.~~
2) FOR PE/ROTO LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE.
STRESS RELIEVED NO
NDT REQUIREMENT RT10 % RANDOM
INSULATION NIL THK.
PAINTING PCS 1,2 OF SP1246
MADE BY : MD
DATE : APR.'11
CHKD BY :
APPRD BY :
TITLE : PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
DESIGN PRESSURE 4782 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 7173 kPag
W.B.S. No. IN.09.011
PIPING ARRGT. DRWG. NIM-3-6114/6115-001-DQ NIM-3-5391-001-DQ NIM-3-5390-002-DQ
PIPING CLASS 31440X
LINE No. P481362
شركة تنمية نفط عمان
Petroleum Development Oman
REV. 0
DATE APR.'11
SIGN.
DWG. NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV
NIM 3 2144 019 DQ 3 0
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
MTO DWG. No. :
NIM 3 2144 519 DQ 4
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\ISO\32144019_DQ.dwg 13-APR-2011 9:50:44 AM Mohd.Sheikh



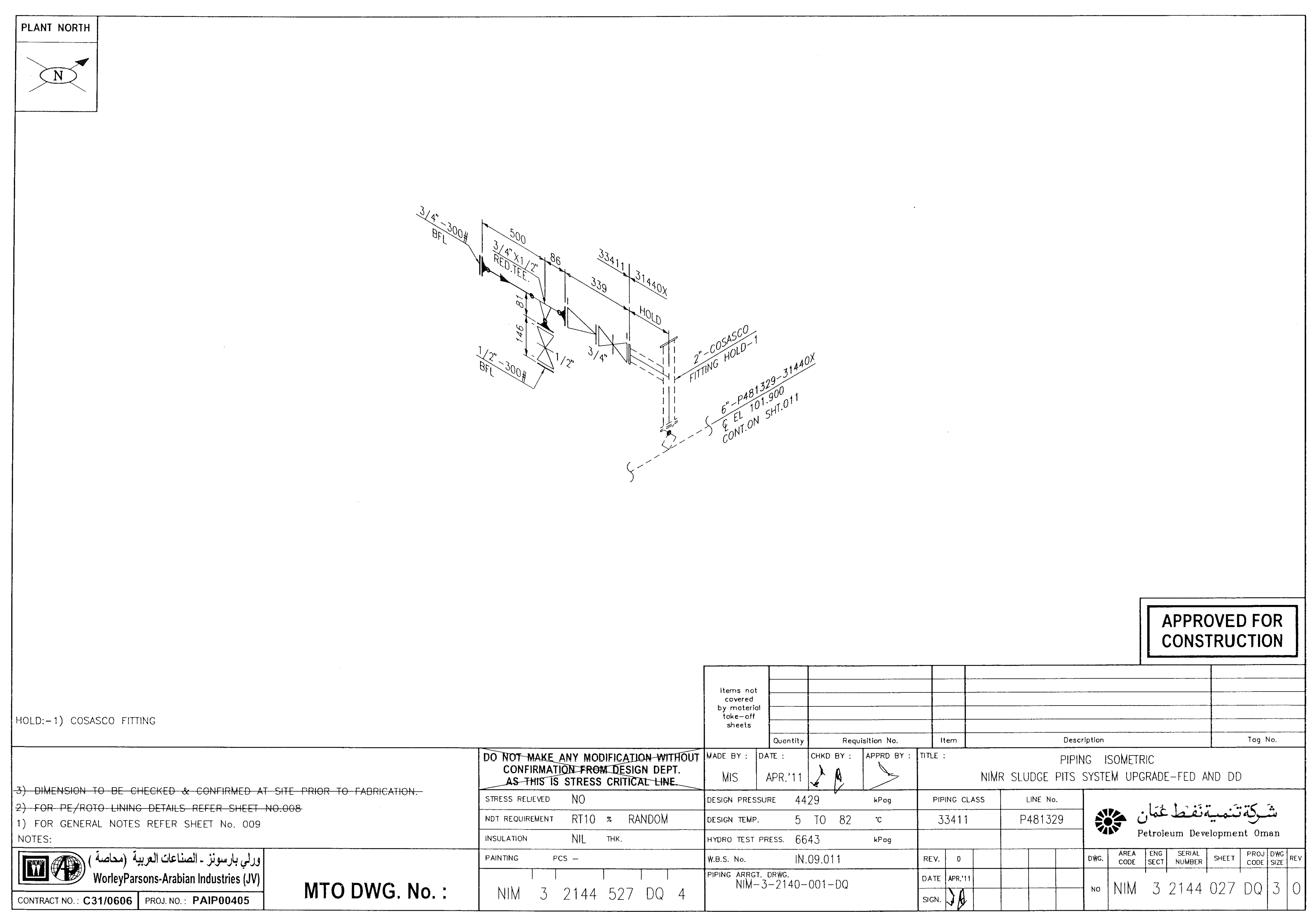
PLANT NORTH
N
CONT. ON SHT.019
℄ EL.99.134
SPL-ROTO-064
SPL-ROTO-065
6"-P481362-31440X
SPL-ROTO-066
SPL-ROTO-067
SPL-ROTO-068
SPL-ROTO-069
SPL-PE-009
SPL-ROTO-070
SPL-ROTO-071
SPL-ROTO-072
SPL-ROTO-073
SPL-ROTO-074
SPL-ROTO-075
SPL-ROTO-076
2"-300#-BFL FLUSHING CONNECTION
℄ EL 99.150
2"-300# BFL
MATCH POINT-'A'
2"-V
2"-D
2"-NC
4"-NC
1/2"
A.V.
45°V
45°H
HOLD-1
48 PG 1545
2" SBB FB
2"-300# BFL TYP
6"
MATCH POINT-'A'
℄ EL 98.739
6"-300# BFL
6"x4" RED.TEE
C.O.D. NIM-3-6113-001-DQ
31440-PE/IC
31440X
T 07
APPROVED FOR CONSTRUCTION
HOLD:-1) RETAINER RING/ROTO LINING THICKNESS.
4) 31440X INDICATE PE/ROTO PIPING LINED. VALVES WITH BODY & TRIM OF 25% Cr SDSS
3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.
2) FOR PE/ROTO LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE
MADE BY : MD
DATE : APR.'11
CHKD BY :
APPRD BY :
TITLE : PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
STRESS RELIEVED NO
NDT REQUIREMENT RT10 % RANDOM
INSULATION NIL THK.
PAINTING PCS 1 OF SP1246
DESIGN PRESSURE 4782 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 7173 kPag
W.B.S. No. IN.09.011
PIPING ARRGT. DRWG. NIM-3-6113-001-DQ NIM-3-6114-001-DQ
PIPING CLASS 31440X
LINE No. P481362
شركة تنمية نفط عمان
Petroleum Development Oman
REV. 0
DATE APR.'11
SIGN.
DWG. NO NIM 3 2144 020 DQ 3 0
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
MTO DWG. No. :
NIM 3 2144 520 DQ 4
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\ISO\32144020_DQ.dwg 11-APR-2011 3:01:33 PM Mohd.Sheikh


PLANT NORTH
N
SLOPE-1:200
VALVE PIT
2" NC
℄ WP EL. 98.160
709
℄ WP EL. 98.164
400
533
24
24
℄ WP EL. 98.164
700
2"-150# BFL TYP
2550 (TYP)
1900
NOTE-3 (TYP)
℄ EL 100.500 (TYP)
OPENING (TYP)
2" NC
184
11440 (TYP)
11440X (TYP)
GRE (TYP)
℄ WP EL. 98.160
960
GRE
11440X
GRE
10"-P481334-GRE
SLOPE-1:200
APPROVED FOR CONSTRUCTION
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.
2) FOR PE LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
MTO DWG. No. :
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE
STRESS RELIEVED NO
NDT REQUIREMENT RT10 % RANDOM
INSULATION N/A THK.
PAINTING PCS 1 OF SP1246
NIM 3 2144 523 DQ 4
MADE BY : MIS
DATE : APR.'11
CHKD BY :
APPRD BY :
DESIGN PRESSURE 1820 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 2730 kPag
W.B.S. No. NIM.IN.09.011
PIPING ARRGT. DRWG. NIM-3-2141-001-DQ
TITLE : PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
PIPING CLASS 11440 11440X
LINE No. P481334
REV. 0
DATE APR.'11
SIGN.
شركة تنمية نفط عمان
Petroleum Development Oman
DWG. NO
AREA CODE NIM
ENG SECT 3
SERIAL NUMBER 2144
SHEET 023
PROJ CODE DQ
DWG SIZE 3
REV 0
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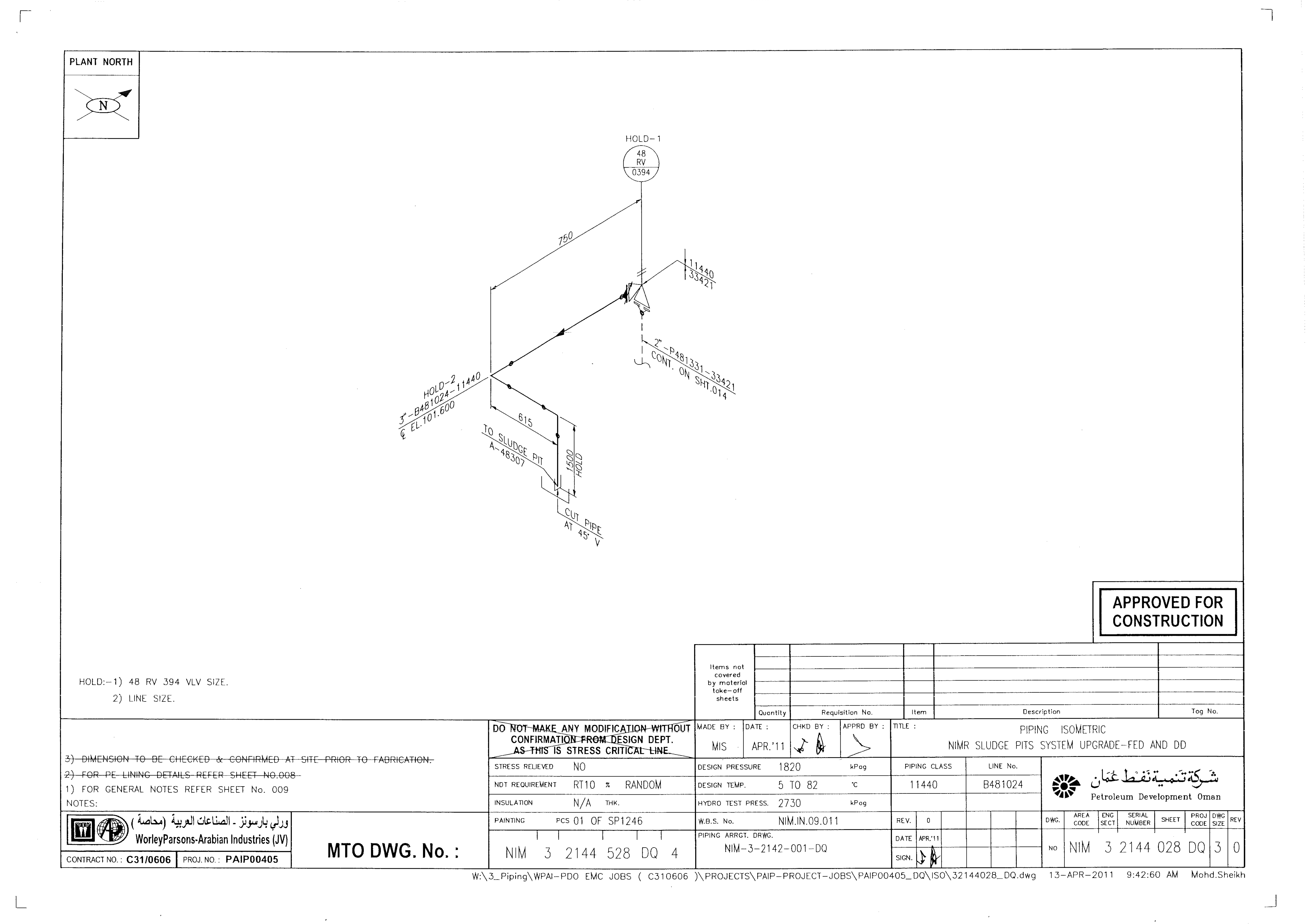

PLANT NORTH
N
2"-P481335-31440X
CONT. ON SHT.017
2"-P481335-31440X
CONT. ON SHT.017
31440X
31440
489
REF
333
333
2"
℄ EL 100.891
250
348
HOLD-1
2"-P481335-31440X
CONT. ON SHT.017
2"-P481357-31440
348
HOLD-1
2"x3/4"x1/2"
ECC.RED.BF
31440X
TYP
333
31440
TYP
230
1/2"
158
90
150
℄ EL.100.524
TO FUNNEL
CONT. ON SHT. 043
APPROVED FOR CONSTRUCTION
HOLD-1) ROTO LINING THICKNESS.
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE
MADE BY : MD
DATE : APR.'11
CHKD BY :
APPRD BY :
TITLE : PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.
2) FOR PE LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
STRESS RELIEVED NO
NDT REQUIREMENT RT10 % RANDOM
INSULATION NIL THK.
PAINTING PCS 1 OF SP1246
DESIGN PRESSURE 4782 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 7173 kPag
W.B.S. No. IN.09.011
PIPING ARRGT. DRWG. MIN-3-5085-001-DQ
PIPING CLASS 31440
LINE No. P481357
شركة تنمية نفط عمان
Petroleum Development Oman
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
MTO DWG. No. :
NIM 3 2144 524 DQ 4
REV. 0
DATE APR.'11
SIGN.
DWG. NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV
NIM 3 2144 024 DQ 3 0
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\ISO\32144024_DQ.dwg 11-APR-2011 11:01:25 AM laila.al-fazari



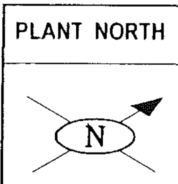
PLANT NORTH
N
T
02
11440
NEW
1105P
EXISTING
4"-P48079-1105P
4"-150#
BFL.
4"
T
03
11440
NEW
1105P
EXISTING
2"-D48183-1105P
4"-D48184-1105P
2"-150#
BFL.
2"-NC
APPROVED FOR CONSTRUCTION
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE
3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.
2) FOR PE LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
MADE BY : MIS
DATE : APR.'11
CHKD BY :
APPRD BY :
TITLE : PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
STRESS RELIEVED NO
NDT REQUIREMENT N/A %
INSULATION N/A THK.
PAINTING PCS 1 OF SP1246
DESIGN PRESSURE 1820 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. N/A kPag
W.B.S. No. NIM.IN.09.011
PIPING ARRGT. DRWG. NIM-3-5085-001-DQ
PIPING CLASS 11440 11440
LINE No. P48079 D48183
REV. 0
DATE APR.'11
SIGN.
شركة تنمية نفط عمان
Petroleum Development Oman
DWG. NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV
NIM 3 2144 025 DQ 3 0
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO. : C31/0606
PROJ. NO. : PAIP00405
MTO DWG. No. :
NIM 3 2144 525 DQ 4
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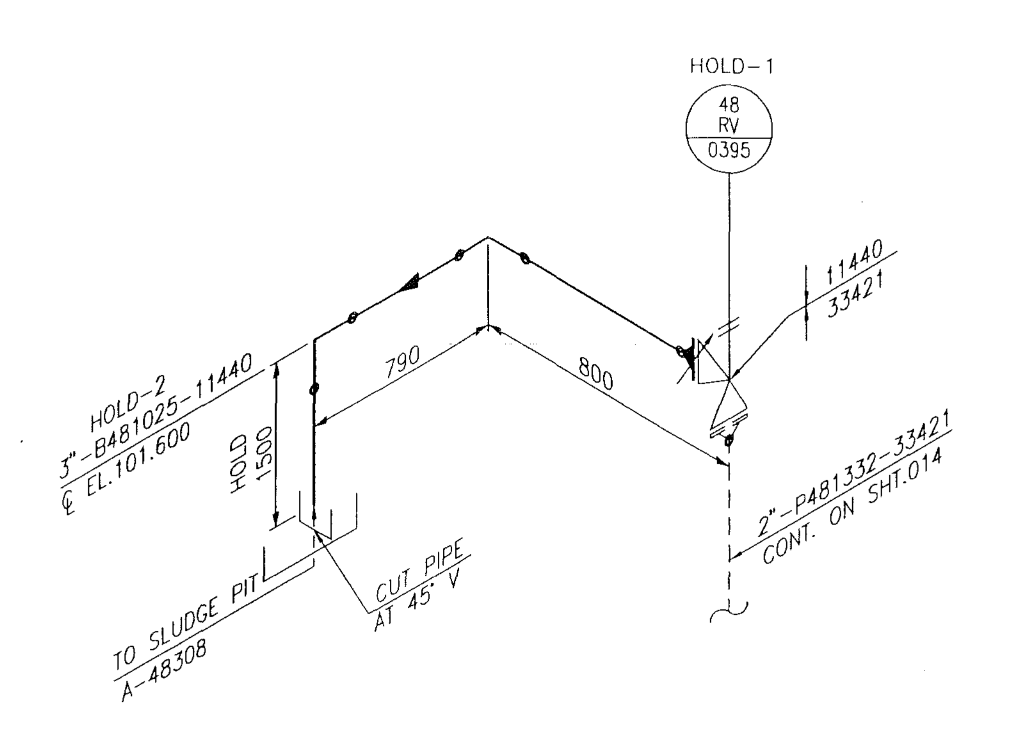


PLANT NORTH
N
3/4"-300#
BFL
500
3/4"X1/2"
RED.TEE.
86
33411
31440X
339
HOLD
81
146
1/2"
3/4"
1/2"-300#
BFL
2"-COSASCO
FITTING HOLD-1
6"-P481329-31440X
℄ EL 101.900
CONT.ON SHT.011
APPROVED FOR CONSTRUCTION
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
HOLD:-1) COSASCO FITTING
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE.
3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.
2) FOR PE/ROTO LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
STRESS RELIEVED NO
NDT REQUIREMENT RT10 % RANDOM
INSULATION NIL THK.
PAINTING PCS –
MADE BY : MIS
DATE : APR.'11
CHKD BY :
APPRD BY :
TITLE : PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
DESIGN PRESSURE 4429 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 6643 kPag
W.B.S. No. IN.09.011
PIPING ARRGT. DRWG. NIM-3-2140-001-DQ
PIPING CLASS 33411
LINE No. P481329
REV. 0
DATE APR.'11
SIGN.
شركة تنمية نفط عمان
Petroleum Development Oman
DWG. NO
AREA CODE NIM
ENG SECT 3
SERIAL NUMBER 2144
SHEET 027
PROJ CODE DQ
DWG SIZE 3
REV 0
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
MTO DWG. No. :
NIM 3 2144 527 DQ 4
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PLANT NORTH
N
HOLD-1
48
RV
0394
750
11440
33421
2"-P481331-33421
CONT. ON SHT.014
HOLD-2
3"-B481024-11440
℄ EL.101.600
615
TO SLUDGE PIT
A-48307
1500
HOLD
CUT PIPE
AT 45° V
APPROVED FOR
CONSTRUCTION
HOLD:-1) 48 RV 394 VLV SIZE.
2) LINE SIZE.
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
DO NOT MAKE ANY MODIFICATION WITHOUT
CONFIRMATION FROM DESIGN DEPT.
AS THIS IS STRESS CRITICAL LINE.
3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.
2) FOR PE LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
MADE BY : MIS
DATE : APR.'11
CHKD BY :
APPRD BY :
TITLE :
PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
STRESS RELIEVED NO
NDT REQUIREMENT RT10 % RANDOM
INSULATION N/A THK.
PAINTING PCS 01 OF SP1246
DESIGN PRESSURE 1820 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 2730 kPag
W.B.S. No. NIM.IN.09.011
PIPING ARRGT. DRWG.
NIM-3-2142-001-DQ
PIPING CLASS 11440
LINE No. B481024
REV. 0
DATE APR.'11
SIGN.
شركة تنمية نفط عمان
Petroleum Development Oman
DWG. NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV
NIM 3 2144 028 DQ 3 0
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO. : C31/0606
PROJ. NO. : PAIP00405
MTO DWG. No. :
NIM 3 2144 528 DQ 4
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PLANT NORTH





APPROVED FOR CONSTRUCTION

HOLD:-1) 48 RV 395 VLV SIZ.
2) LINE SIZE.

Items not covered by material take-off sheets	Quantity	Requisition No.	Item	Description	Tag No.

~~3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.~~
~~2) FOR PE LINING DETAILS REFER SHEET NO.008~~
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:

DO ~~NOT MAKE~~ ANY MODIFICATION ~~WITHOUT~~ CONFIRMATION ~~FROM~~ DESIGN DEPT. ~~AS THIS~~ IS STRESS CRITICAL ~~LINE~~

MADE BY :	DATE :	CHKD BY :	APPRD BY :	TITLE :
MIS	APR.'11			PIPING ISOMETRIC NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD

STRESS RELIEVED	NO	DESIGN PRESSURE	1820 kPag	PIPING CLASS	LINE No.		
NDT REQUIREMENT	RT10 % RANDOM	DESIGN TEMP.	5 TO 82 °C	11440	B481025		
INSULATION	N/A THK.	HYDRO TEST PRESS.	2730 kPag				
PAINTING	PCS 01 OF SP1246	W.B.S. No.	NIM.IN.09.011	REV.	0		

شركة تنمية نفط عمان
Petroleum Development Oman

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

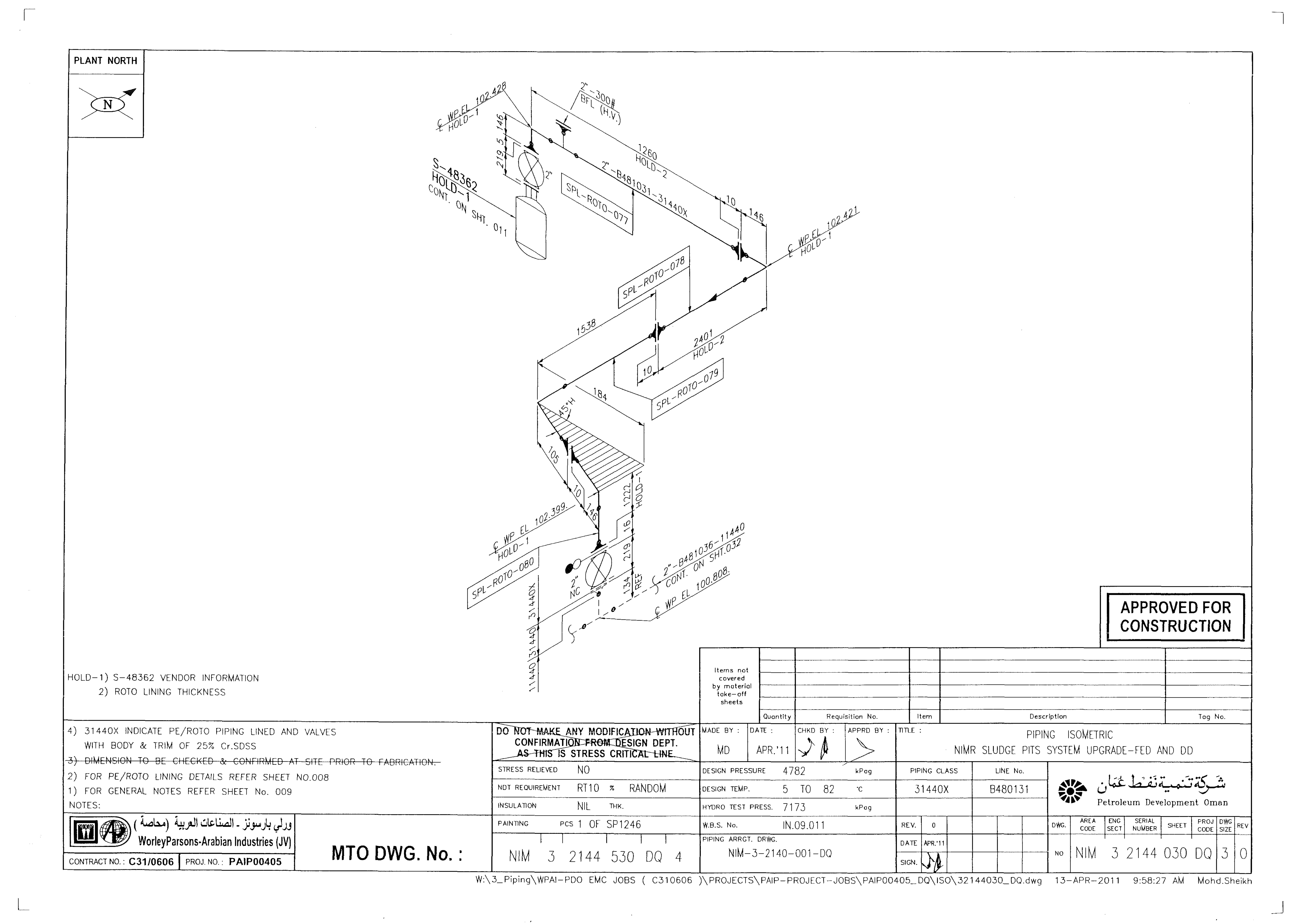
MTO DWG. No. : NIM 3 2144 529 DQ 4

PIPING ARRGT. DRWG. NIM-3-2140-001-DQ

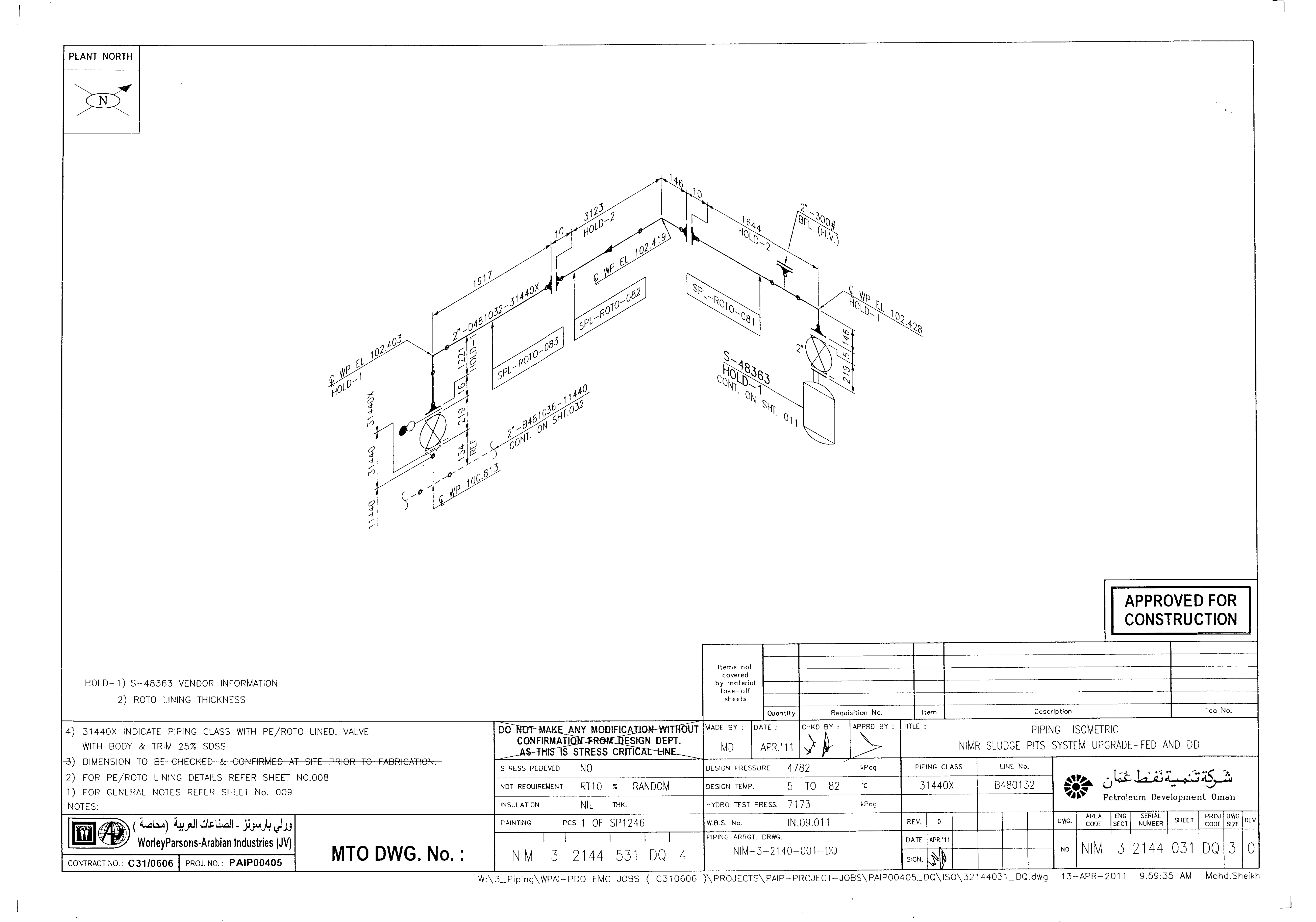
DATE APR.'11
SIGN.

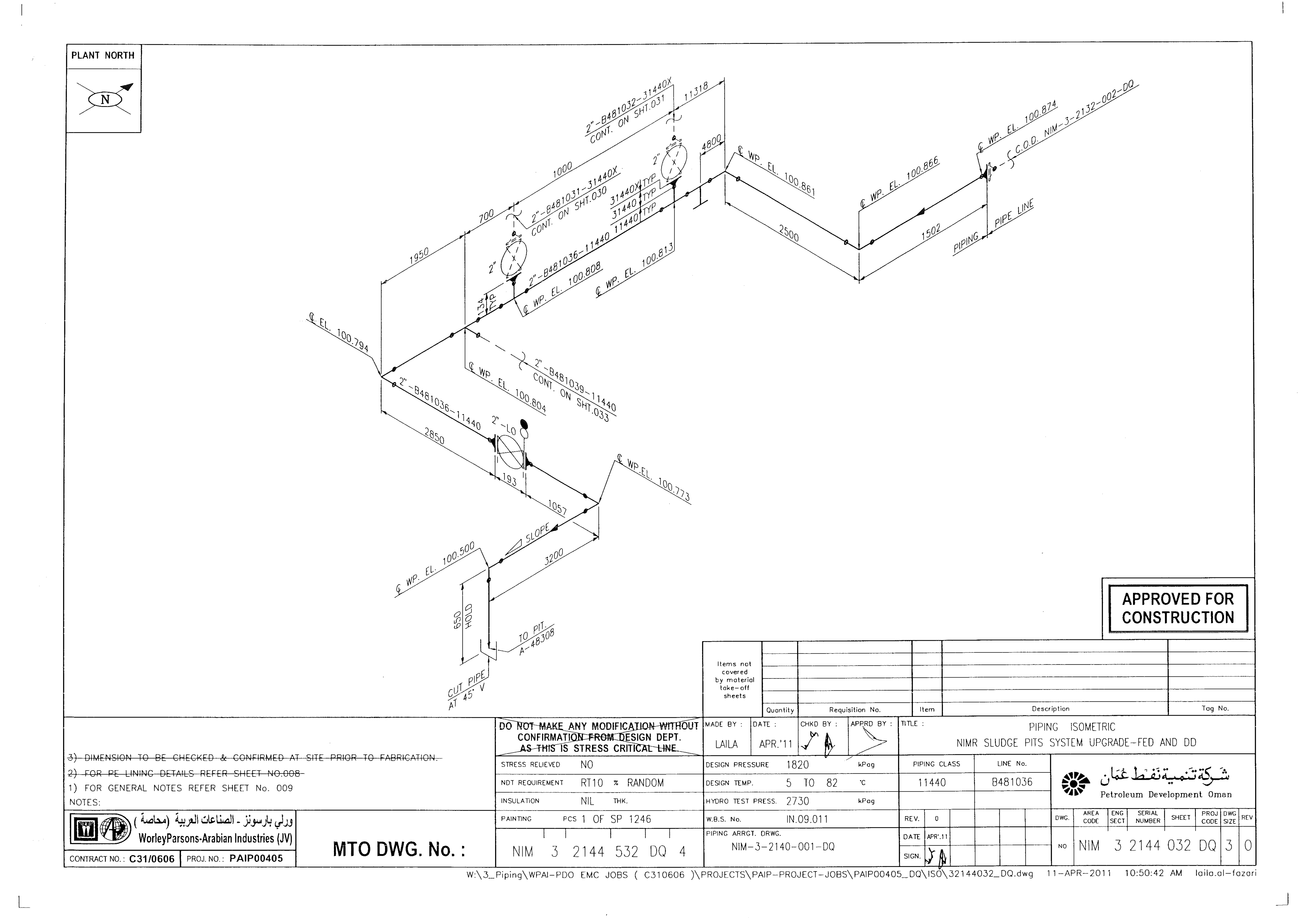
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NO	NIM	3	2144	029	DQ	3	0

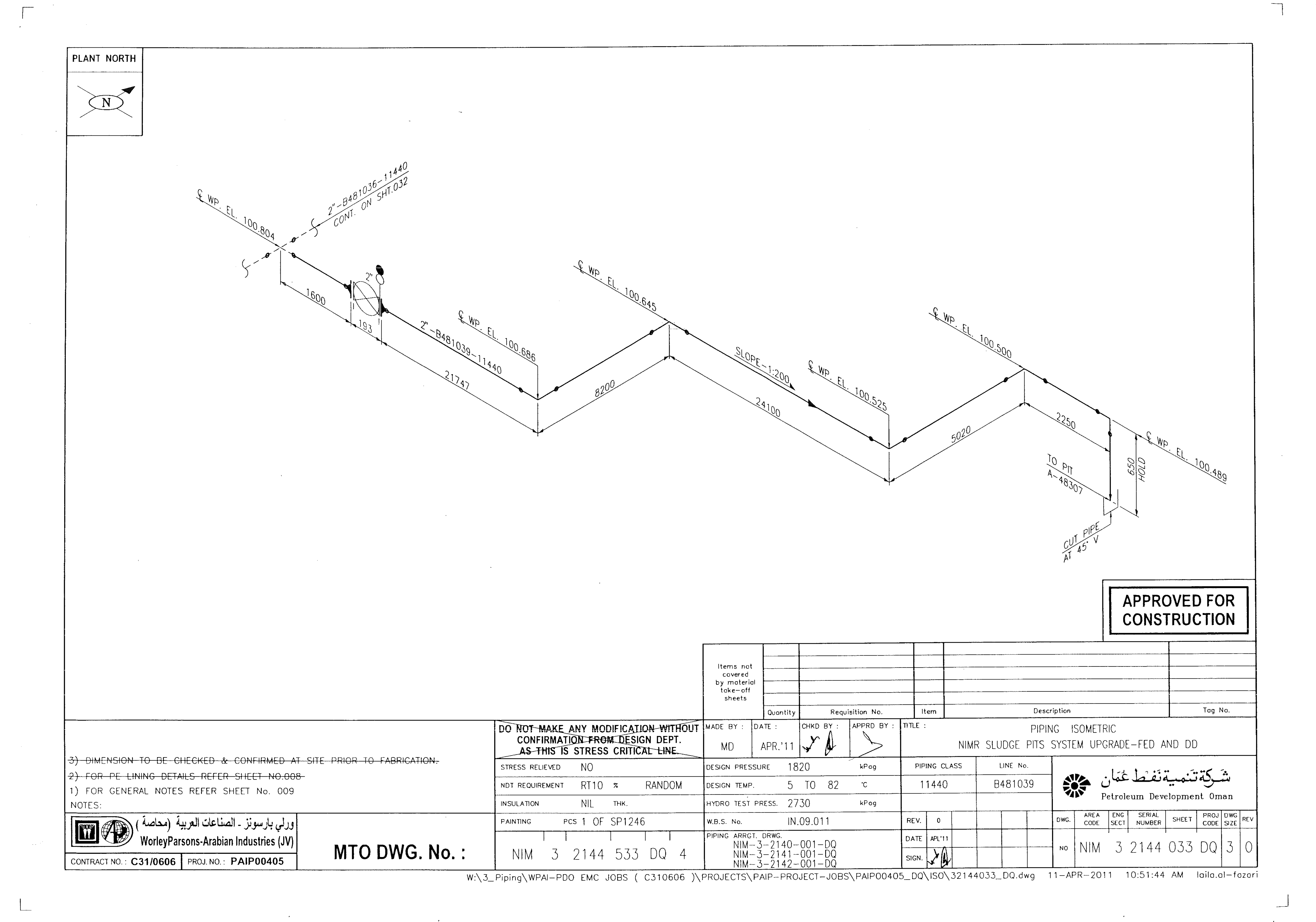
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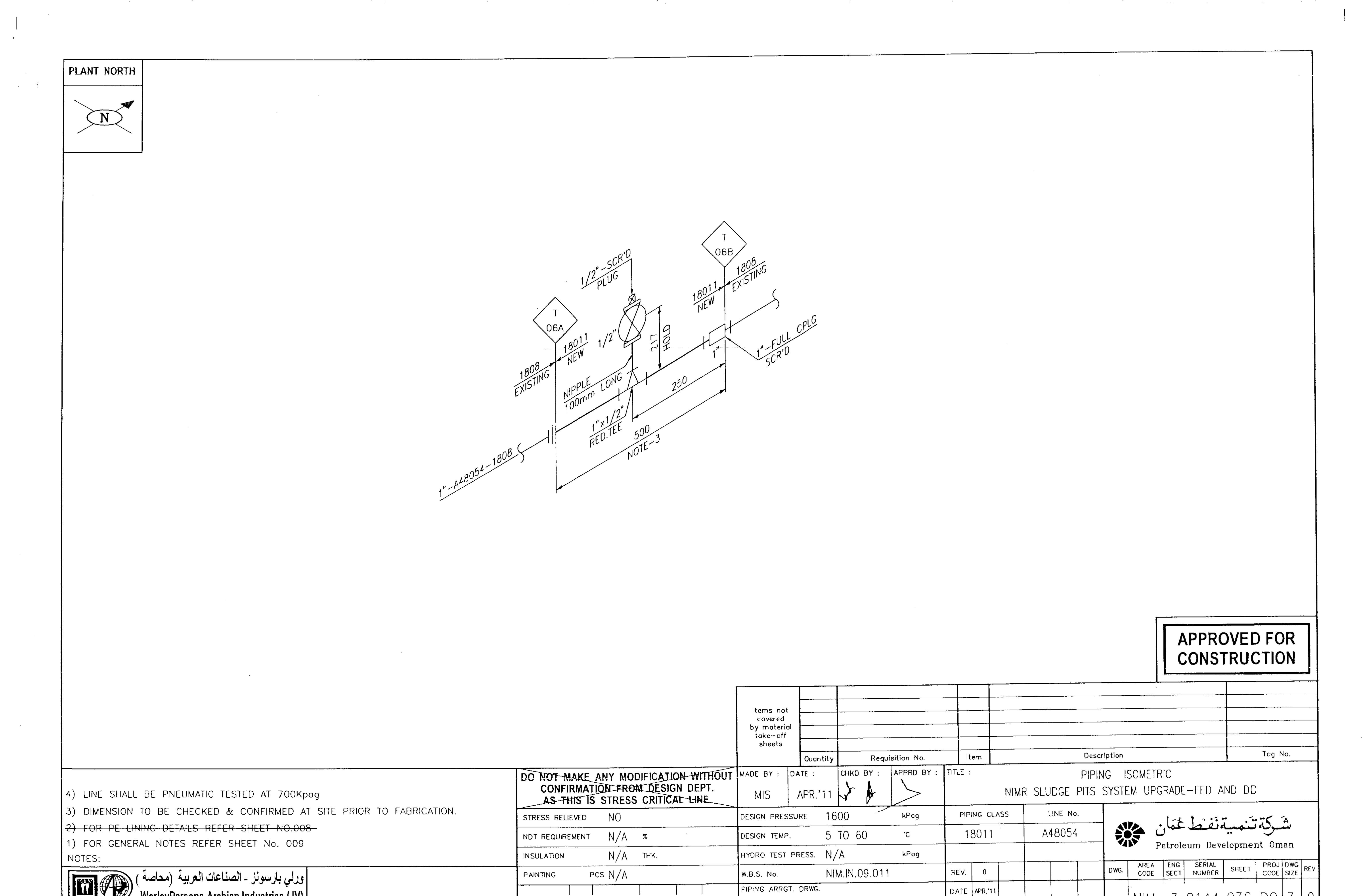


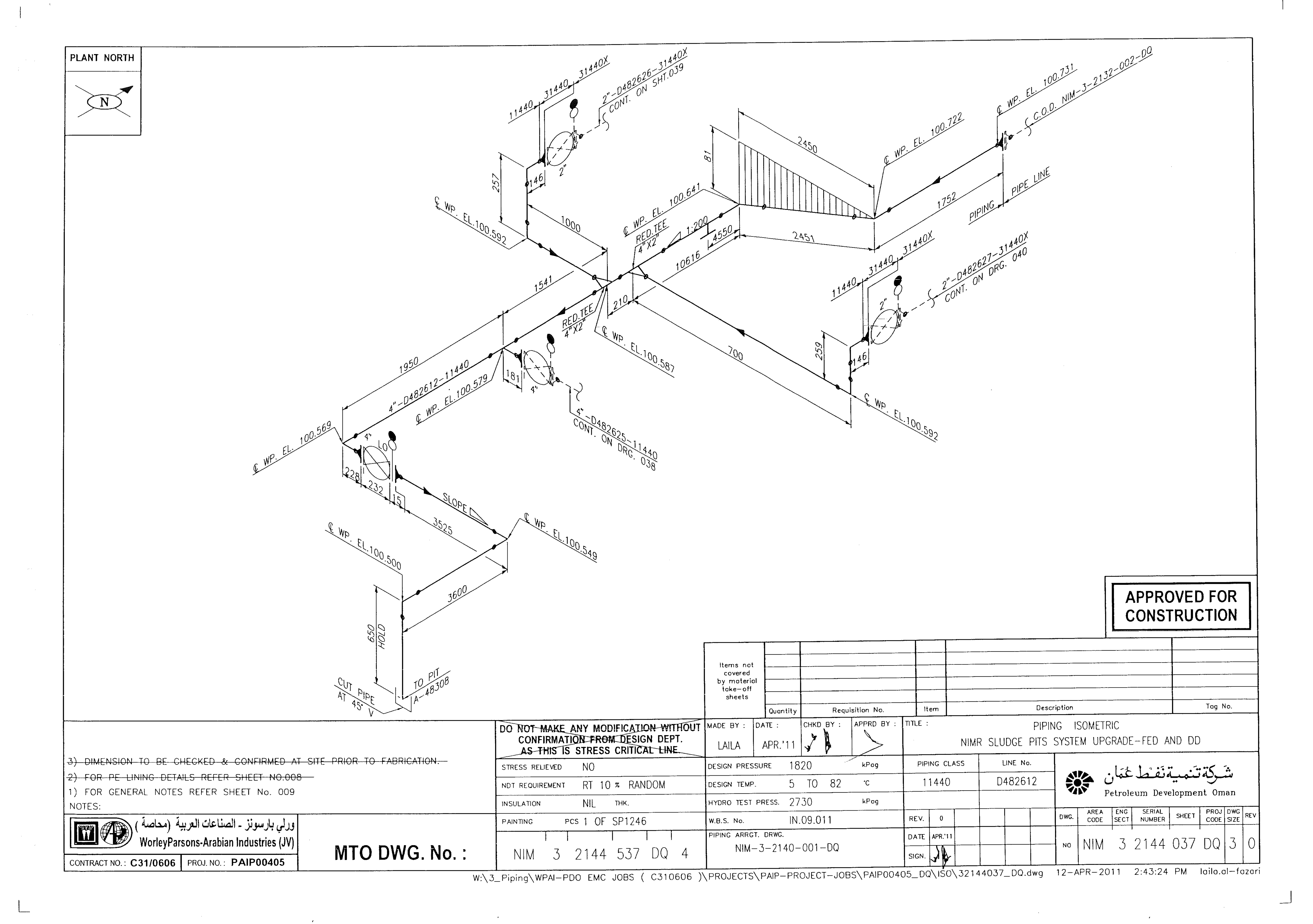
PLANT NORTH
N
℄ WP.EL 102.428
HOLD-1
2"-300#
BFL (H.V.)
1260
HOLD-2
2"-B481031-31440X
SPL-ROTO-077
S-48362
HOLD-1
CONT. ON SHT. 011
10
146
℄ WP.EL 102.421
HOLD-1
SPL-ROTO-078
1538
2401
HOLD-2
SPL-ROTO-079
184
45°H
105
10
146
1222
HOLD-1
℄ WP EL 102.399
HOLD-1
SPL-ROTO-080
2"
NC
16
219
134
REF
2"-B481036-11440
CONT. ON SHT.032
℄ WP EL 100.808
31440X
31440
11440
APPROVED FOR CONSTRUCTION
HOLD-1) S-48362 VENDOR INFORMATION
2) ROTO LINING THICKNESS
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
4) 31440X INDICATE PE/ROTO PIPING LINED AND VALVES WITH BODY & TRIM OF 25% Cr.SDSS
3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.
2) FOR PE/ROTO LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
MTO DWG. No. :
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE.
STRESS RELIEVED NO
NDT REQUIREMENT RT10 % RANDOM
INSULATION NIL THK.
PAINTING PCS 1 OF SP1246
NIM 3 2144 530 DQ 4
MADE BY : MD
DATE : APR.'11
CHKD BY :
APPRD BY :
DESIGN PRESSURE 4782 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 7173 kPag
W.B.S. No. IN.09.011
PIPING ARRGT. DRWG. NIM-3-2140-001-DQ
TITLE : PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
PIPING CLASS 31440X
LINE No. B480131
REV. 0
DATE APR.'11
SIGN.
شركة تنمية نفط عمان
Petroleum Development Oman
DWG. NO
AREA CODE NIM
ENG SECT 3
SERIAL NUMBER 2144
SHEET 030
PROJ CODE DQ
DWG SIZE 3
REV 0
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\ISO\32144030_DQ.dwg 13-APR-2011 9:58:27 AM Mohd.Sheikh


PLANT NORTH
N
2"-D481032-31440X
C WP EL 102.403
HOLD-1
1917
10
3123
HOLD-2
C WP EL 102.419
146
10
1644
HOLD-2
2"-300#
BFL (H.V.)
C WP EL 102.428
HOLD-1
SPL-ROTO-083
SPL-ROTO-082
SPL-ROTO-081
1221
HOLD-1
16
219
134
REF
2"-B481036-11440
CONT. ON SHT.032
C WP 100.813
31440X
31440
11440
2"
146
5
219
S-48363
HOLD-1
CONT. ON SHT. 011
APPROVED FOR CONSTRUCTION
HOLD-1) S-48363 VENDOR INFORMATION
2) ROTO LINING THICKNESS
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
4) 31440X INDICATE PIPING CLASS WITH PE/ROTO LINED. VALVE WITH BODY & TRIM 25% SDSS
3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.
2) FOR PE/ROTO LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE
STRESS RELIEVED NO
NDT REQUIREMENT RT10 % RANDOM
INSULATION NIL THK.
PAINTING PCS 1 OF SP1246
NIM 3 2144 531 DQ 4
MADE BY : MD
DATE : APR.'11
CHKD BY :
APPRD BY :
TITLE : PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
DESIGN PRESSURE 4782 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 7173 kPag
W.B.S. No. IN.09.011
PIPING ARRGT. DRWG. NIM-3-2140-001-DQ
PIPING CLASS 31440X
LINE No. B480132
REV. 0
DATE APR.'11
SIGN.
شركة تنمية نفط عمان
Petroleum Development Oman
DWG. NO
AREA CODE NIM
ENG SECT 3
SERIAL NUMBER 2144
SHEET 031
PROJ CODE DQ
DWG SIZE 3
REV 0
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
MTO DWG. No. :
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\ISO\32144031_DQ.dwg 13-APR-2011 9:59:35 AM Mohd.Sheikh

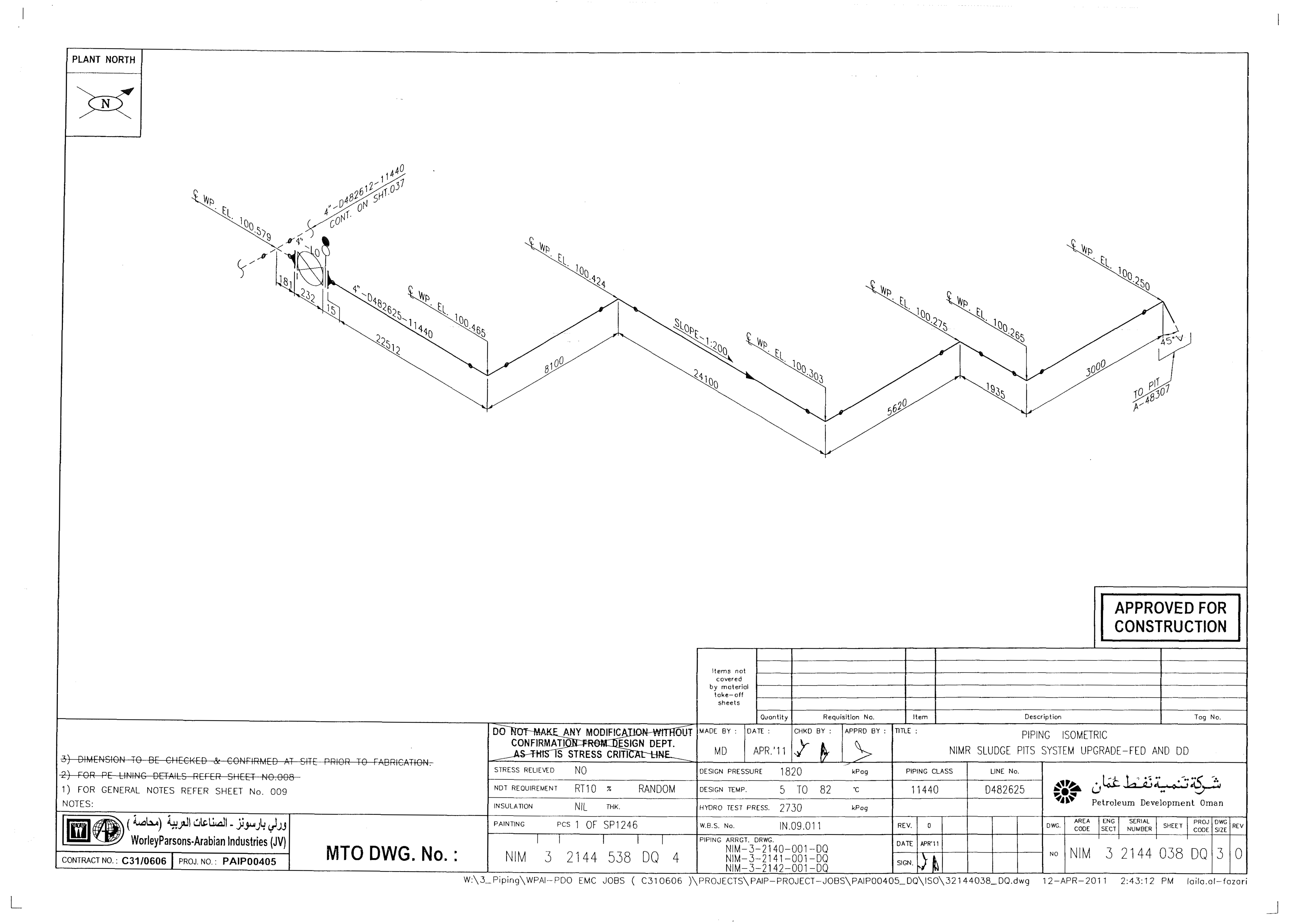

PLANT NORTH
N
2"-B481032-31440X CONT. ON SHT.031
11318
1000
4800
2"-B481031-31440X CONT. ON SHT.030
31440X TYP
31440 TYP
11440 TYP
℄ WP. EL. 100.861
℄ WP. EL. 100.866
℄ WP. EL. 100.874
℄ C.O.D. NIM-3-2132-002-DQ
PIPING
PIPE LINE
2"-B481036-11440
℄ WP. EL. 100.808
℄ WP. EL. 100.813
℄ EL. 100.794
℄ WP. EL. 100.804
2"-B481039-11440 CONT. ON SHT.033
2"-B481036-11440
2"-LO
℄ WP.EL. 100.773
SLOPE
℄ WP. EL. 100.500
650 HOLD
TO PIT. A-48308
CUT PIPE AT 45° V
APPROVED FOR CONSTRUCTION
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE
MADE BY : LAILA
DATE : APR.'11
CHKD BY :
APPRD BY :
TITLE : PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.
2) FOR PE LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
STRESS RELIEVED NO
NDT REQUIREMENT RT10 % RANDOM
INSULATION NIL THK.
PAINTING PCS 1 OF SP 1246
DESIGN PRESSURE 1820 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 2730 kPag
W.B.S. No. IN.09.011
PIPING ARRGT. DRWG. NIM-3-2140-001-DQ
PIPING CLASS 11440
LINE No. B481036
REV. 0
DATE APR'.11
SIGN.
شركة تنمية نفط عمان
Petroleum Development Oman
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
MTO DWG. No. :
NIM 3 2144 532 DQ 4
DWG. NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV
NIM 3 2144 032 DQ 3 0
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\ISO\32144032_DQ.dwg 11-APR-2011 10:50:42 AM laila.al-fazari


PLANT NORTH
N
℄ WP. EL. 100.804
2"-B481036-11440
CONT. ON SHT.032
1600
193
2"
2"-B481039-11440
21747
℄ WP. EL. 100.686
8200
℄ WP. EL. 100.645
SLOPE-1:200
24100
℄ WP. EL. 100.525
5020
℄ WP. EL. 100.500
2250
TO PIT
A-48307
650
HOLD
℄ WP. EL. 100.489
CUT PIPE
AT 45° V
APPROVED FOR CONSTRUCTION
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE.
3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.
2) FOR PE LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
MADE BY : MD
DATE : APR.'11
CHKD BY :
APPRD BY :
TITLE : PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
STRESS RELIEVED NO
NDT REQUIREMENT RT10 % RANDOM
INSULATION NIL THK.
PAINTING PCS 1 OF SP1246
DESIGN PRESSURE 1820 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 2730 kPag
W.B.S. No. IN.09.011
PIPING ARRGT. DRWG.
NIM-3-2140-001-DQ
NIM-3-2141-001-DQ
NIM-3-2142-001-DQ
PIPING CLASS 11440
LINE No. B481039
REV. 0
DATE APL'11
SIGN.
شركة تنمية نفط عمان
Petroleum Development Oman
DWG. NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV
NIM 3 2144 033 DQ 3 0
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO. : C31/0606
PROJ. NO. : PAIP00405
MTO DWG. No. :
NIM 3 2144 533 DQ 4
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PLANT NORTH
N
T
06A
T
06B
1/2"-SCR'D
PLUG
1/2"
217
HOLD
18011
NEW
1808
EXISTING
18011
NEW
1808
EXISTING
1"
1"-FULL CPLG
SCR'D
NIPPLE
100mm LONG
250
1"x1/2"
RED.TEE
500
NOTE-3
1"-A48054-1808
APPROVED FOR
CONSTRUCTION
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
4) LINE SHALL BE PNEUMATIC TESTED AT 700Kpag
3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.
2) FOR PE LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
DO NOT MAKE ANY MODIFICATION WITHOUT
CONFIRMATION FROM DESIGN DEPT.
AS THIS IS STRESS CRITICAL LINE
STRESS RELIEVED NO
NDT REQUIREMENT N/A %
INSULATION N/A THK.
PAINTING PCS N/A
MADE BY : MIS
DATE : APR.'11
CHKD BY :
APPRD BY :
DESIGN PRESSURE 1600 kPag
DESIGN TEMP. 5 TO 60 °C
HYDRO TEST PRESS. N/A kPag
W.B.S. No. NIM.IN.09.011
PIPING ARRGT. DRWG.
NIM-3-5391-001-DQ
TITLE :
PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
PIPING CLASS 18011
LINE No. A48054
شركة تنمية نفط عمان
Petroleum Development Oman
REV. 0
DATE APR.'11
SIGN.
DWG. NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV
NIM 3 2144 036 DQ 3 0
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
MTO DWG. No. :
NIM 3 2144 536 DQ 4
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PLANT NORTH
N
11440
31440
31440X
2"-D482626-31440X
CONT. ON SHT.039
2"
146
257
℄ WP. EL.100.592
1000
℄ WP. EL. 100.641
RED.TEE
4"X2"
1:200
4550
10616
81
2450
2451
℄ WP. EL. 100.722
℄ WP. EL. 100.731
C.O.D. NIM-3-2132-002-DQ
1752
PIPING
PIPE LINE
1541
210
RED.TEE
4"X2"
℄ WP. EL.100.587
700
2"-D482627-31440X
CONT. ON DRG. 040
259
℄ WP. EL.100.592
1950
4"-D482612-11440
℄ WP. EL. 100.579
181
4"
4"-D482625-11440
CONT. ON DRG. 038
℄ WP. EL. 100.569
LO
228
232
15
SLOPE
3525
℄ WP. EL.100.549
℄ WP. EL.100.500
3600
650
HOLD
CUT PIPE
AT 45° V
TO PIT
A-48308
APPROVED FOR CONSTRUCTION
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE
3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.
2) FOR PE LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
MTO DWG. No. :
NIM 3 2144 537 DQ 4
STRESS RELIEVED NO
NDT REQUIREMENT RT 10 % RANDOM
INSULATION NIL THK.
PAINTING PCS 1 OF SP1246
MADE BY : LAILA
DATE : APR.'11
CHKD BY :
APPRD BY :
DESIGN PRESSURE 1820 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 2730 kPag
W.B.S. No. IN.09.011
PIPING ARRGT. DRWG. NIM-3-2140-001-DQ
TITLE : PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
PIPING CLASS 11440
LINE No. D482612
REV. 0
DATE APR.'11
SIGN.
شركة تنمية نفط عمان
Petroleum Development Oman
DWG. NO
AREA CODE NIM
ENG SECT 3
SERIAL NUMBER 2144
SHEET 037
PROJ CODE DQ
DWG SIZE 3
REV 0
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\ISO\32144037_DQ.dwg 12-APR-2011 2:43:24 PM laila.al-fazari



Items not covered by material take-off sheets	Quantity	Requisition No.	Item	Description	Tag No.

~~3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.~~
~~2) FOR PE LINING DETAILS REFER SHEET NO.008~~
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:

DO ~~NOT MAKE~~ ANY MODIFICATION ~~WITHOUT~~ CONFIRMATION ~~FROM~~ DESIGN DEPT. ~~AS THIS~~ IS STRESS CRITICAL ~~LINE~~

MADE BY : MD	DATE : APR.'11	CHKD BY :	APPRD BY :	TITLE : PIPING ISOMETRIC NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
STRESS RELIEVED: NO	DESIGN PRESSURE: 1820 kPag	PIPING CLASS: 11440	LINE No.: D482625	شركة تنمية نفط عمان Petroleum Development Oman
NDT REQUIREMENT: RT10 % RANDOM	DESIGN TEMP.: 5 TO 82 °C			
INSULATION: NIL THK.	HYDRO TEST PRESS.: 2730 kPag			
PAINTING: PCS 1 OF SP1246	W.B.S. No.: IN.09.011	REV.: 0		
	PIPING ARRGT. DRWG.: NIM-3-2140-001-DQ, NIM-3-2141-001-DQ, NIM-3-2142-001-DQ	DATE: APR'11	SIGN.	

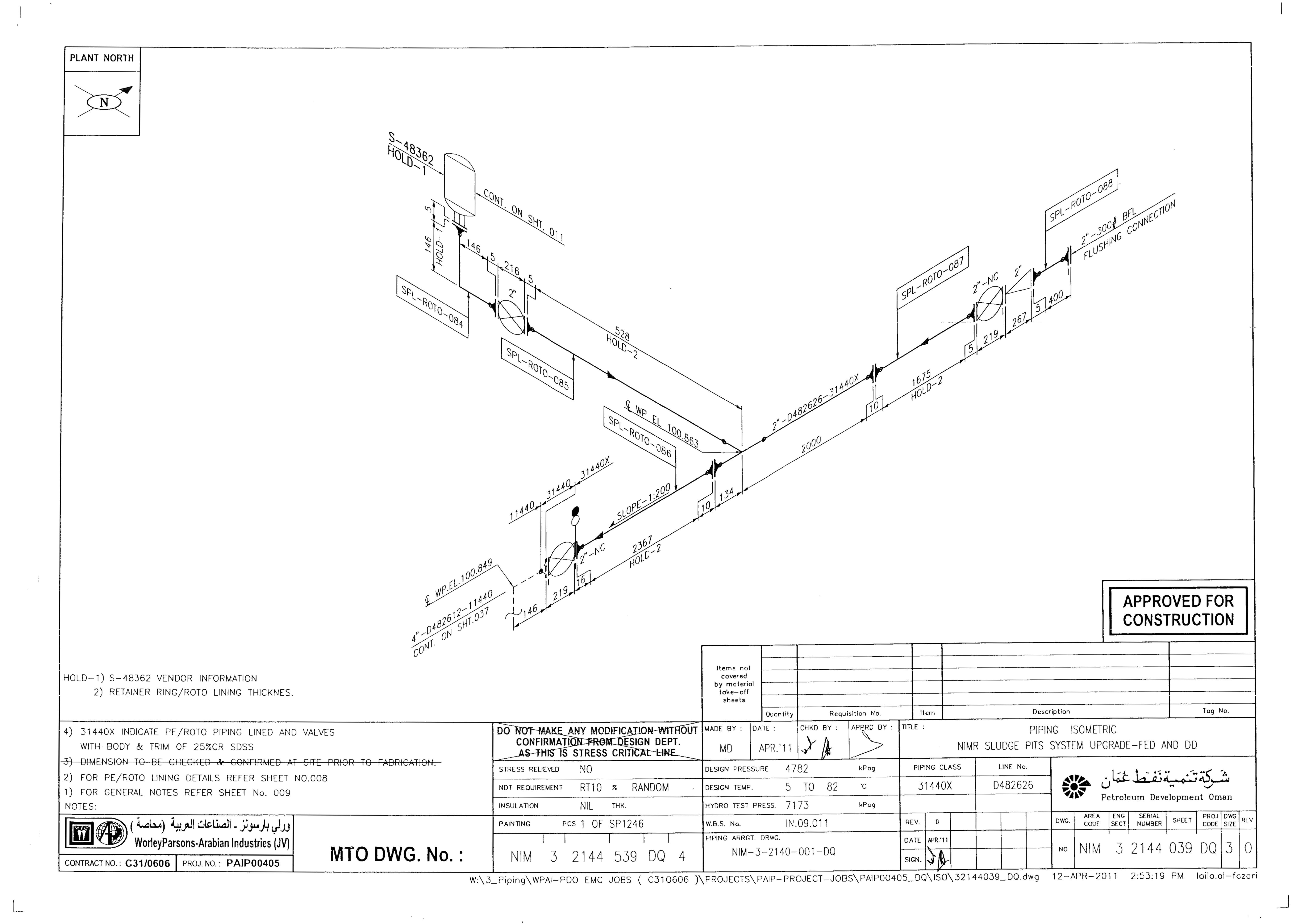
DWG.	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV
NO	NIM	3	2144	038	DQ	3	0

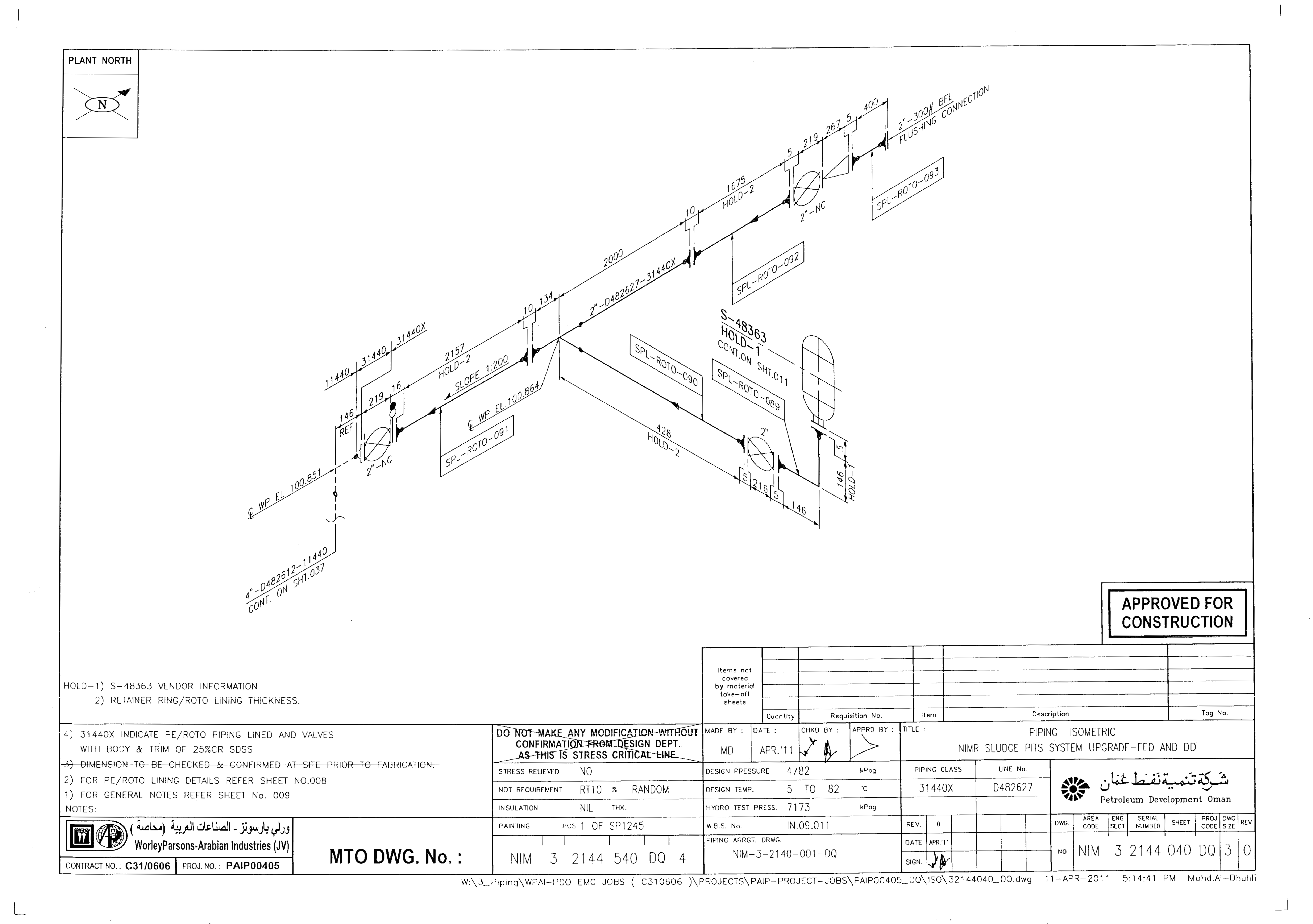
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)

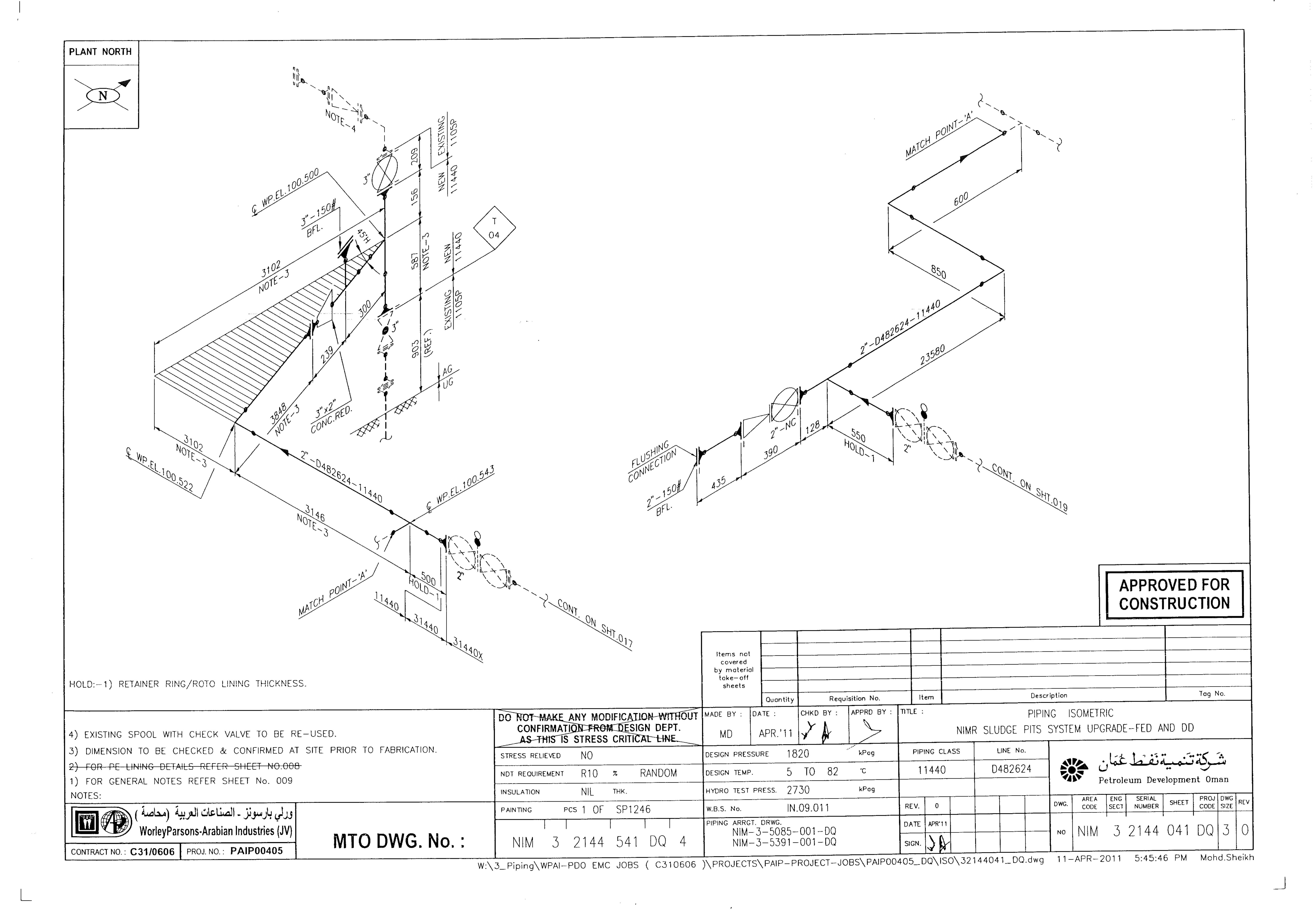
CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

MTO DWG. No. : NIM 3 2144 538 DQ 4

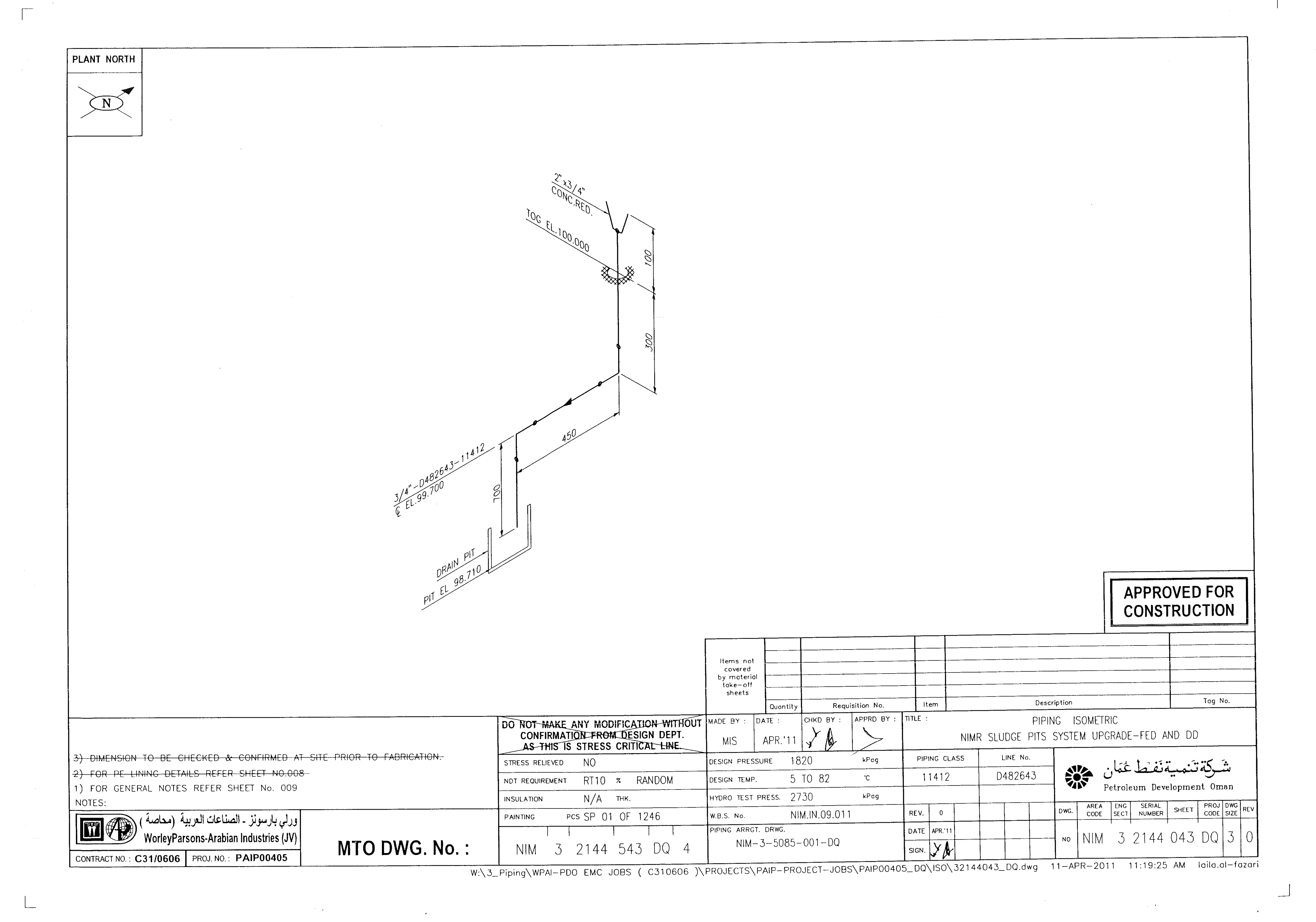
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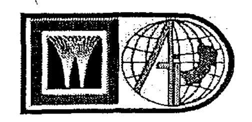

PLANT NORTH
N
S-48362
HOLD-1
CONT. ON SHT. 011
5
146
HOLD-1
146
5
216
5
2"
SPL-ROTO-084
SPL-ROTO-085
528
HOLD-2
℄ WP EL 100.863
SPL-ROTO-086
SPL-ROTO-087
SPL-ROTO-088
2"-300# BFL
FLUSHING CONNECTION
2"-NC
2"
400
5
267
219
5
1675
HOLD-2
10
2"-D482626-31440X
2000
10
134
11440
31440
31440X
SLOPE-1:200
2"-NC
2367
HOLD-2
16
219
146
℄ WP.EL.100.849
4"-D482612-11440
CONT. ON SHT.037
APPROVED FOR CONSTRUCTION
HOLD-1) S-48362 VENDOR INFORMATION
2) RETAINER RING/ROTO LINING THICKNES.
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
4) 31440X INDICATE PE/ROTO PIPING LINED AND VALVES WITH BODY & TRIM OF 25%CR SDSS
3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.
2) FOR PE/ROTO LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE.
STRESS RELIEVED NO
NDT REQUIREMENT RT10 % RANDOM
INSULATION NIL THK.
PAINTING PCS 1 OF SP1246
NIM 3 2144 539 DQ 4
MADE BY : MD
DATE : APR.'11
CHKD BY :
APPRD BY :
DESIGN PRESSURE 4782 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 7173 kPag
W.B.S. No. IN.09.011
PIPING ARRGT. DRWG. NIM-3-2140-001-DQ
TITLE : PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
PIPING CLASS 31440X
LINE No. D482626
شركة تنمية نفط عمان
Petroleum Development Oman
REV. 0
DATE APR.'11
SIGN.
DWG. NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV
NIM 3 2144 039 DQ 3 0
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
MTO DWG. No. :
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\ISO\32144039_DQ.dwg 12-APR-2011 2:53:19 PM laila.al-fazari


PLANT NORTH
N
11440
31440
31440X
146
REF
219
16
2157
HOLD-2
SLOPE 1:200
10
134
2"-D482627-31440X
2000
10
1675
HOLD-2
5
219
267
5
400
2"-300# BFL
FLUSHING CONNECTION
2"-NC
SPL-ROTO-093
SPL-ROTO-092
SPL-ROTO-091
SPL-ROTO-090
SPL-ROTO-089
℄ WP EL.100.864
℄ WP EL 100.851
S-48363
HOLD-1
CONT.ON SHT.011
428
HOLD-2
2"
5
216
5
146
146
HOLD-1
4"-D482612-11440
CONT. ON SHT.037
APPROVED FOR CONSTRUCTION
HOLD-1) S-48363 VENDOR INFORMATION
2) RETAINER RING/ROTO LINING THICKNESS.
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
4) 31440X INDICATE PE/ROTO PIPING LINED AND VALVES WITH BODY & TRIM OF 25%CR SDSS
3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.
2) FOR PE/ROTO LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE.
MADE BY : MD
DATE : APR.'11
CHKD BY :
APPRD BY :
TITLE : PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
STRESS RELIEVED NO
NDT REQUIREMENT RT10 % RANDOM
INSULATION NIL THK.
PAINTING PCS 1 OF SP1245
DESIGN PRESSURE 4782 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 7173 kPag
W.B.S. No. IN.09.011
PIPING ARRGT. DRWG. NIM-3-2140-001-DQ
PIPING CLASS 31440X
LINE No. D482627
REV. 0
DATE APR.'11
SIGN.
شركة تنمية نفط عمان
Petroleum Development Oman
DWG. NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV
NIM 3 2144 040 DQ 3 0
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
MTO DWG. No. :
NIM 3 2144 540 DQ 4
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\ISO\32144040_DQ.dwg 11-APR-2011 5:14:41 PM Mohd.Al-Dhuhli



PLANT NORTH
N
NOTE-4
3"
209
156
EXISTING 1105P
NEW 11440
℄ WP.EL.100.500
3"-150# BFL.
45°H
T 04
3102 NOTE-3
587 NOTE-3
NEW 11440
EXISTING 1105P
300
3"
239
903 (REF.)
AG
UG
3848 NOTE-3
3"x2" CONC.RED.
3102 NOTE-3
℄ WP.EL.100.522
2"-D482624-11440
℄ WP.EL.100.543
3146 NOTE-3
2"
500 HOLD-1
MATCH POINT-'A'
11440
31440
31440X
CONT. ON SHT.017
MATCH POINT-'A'
600
850
2"-D482624-11440
23580
FLUSHING CONNECTION
2"-150# BFL.
435
390
2"-NC
128
550 HOLD-1
2"
CONT. ON SHT.019
APPROVED FOR CONSTRUCTION
HOLD:-1) RETAINER RING/ROTO LINING THICKNESS.
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
4) EXISTING SPOOL WITH CHECK VALVE TO BE RE-USED.
3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.
2) FOR PE LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE
MADE BY : MD
DATE : APR.'11
CHKD BY :
APPRD BY :
TITLE : PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
STRESS RELIEVED NO
DESIGN PRESSURE 1820 kPag
PIPING CLASS 11440
LINE No. D482624
NDT REQUIREMENT R10 % RANDOM
DESIGN TEMP. 5 TO 82 °C
INSULATION NIL THK.
HYDRO TEST PRESS. 2730 kPag
شركة تنمية نفط عمان
Petroleum Development Oman
PAINTING PCS 1 OF SP1246
W.B.S. No. IN.09.011
REV. 0
DATE APR'11
SIGN.
DWG. NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV
NIM 3 2144 041 DQ 3 0
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
MTO DWG. No. :
NIM 3 2144 541 DQ 4
PIPING ARRGT. DRWG.
NIM-3-5085-001-DQ
NIM-3-5391-001-DQ
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\ISO\32144041_DQ.dwg 11-APR-2011 5:45:46 PM Mohd.Sheikh


PLANT NORTH
N
2"x3/4"
CONC.RED.
TOG EL.100.000
100
300
450
3/4"-D482643-11412
℄ EL.99.700
700
DRAIN PIT
PIT EL 98.710
APPROVED FOR
CONSTRUCTION
Items not covered by material take-off sheets
Quantity
Requisition No.
Item
Description
Tag No.
DO NOT MAKE ANY MODIFICATION WITHOUT CONFIRMATION FROM DESIGN DEPT. AS THIS IS STRESS CRITICAL LINE.
3) DIMENSION TO BE CHECKED & CONFIRMED AT SITE PRIOR TO FABRICATION.
2) FOR PE LINING DETAILS REFER SHEET NO.008
1) FOR GENERAL NOTES REFER SHEET No. 009
NOTES:
STRESS RELIEVED NO
NDT REQUIREMENT RT10 % RANDOM
INSULATION N/A THK.
PAINTING PCS SP 01 OF 1246
MADE BY : MIS
DATE : APR.'11
CHKD BY :
APPRD BY :
DESIGN PRESSURE 1820 kPag
DESIGN TEMP. 5 TO 82 °C
HYDRO TEST PRESS. 2730 kPag
W.B.S. No. NIM.IN.09.011
PIPING ARRGT. DRWG. NIM-3-5085-001-DQ
TITLE : PIPING ISOMETRIC
NIMR SLUDGE PITS SYSTEM UPGRADE-FED AND DD
PIPING CLASS 11412
LINE No. D482643
REV. 0
DATE APR.'11
SIGN.
شركة تنمية نفط عمان
Petroleum Development Oman
DWG. NO
AREA CODE NIM
ENG SECT 3
SERIAL NUMBER 2144
SHEET 043
PROJ CODE DQ
DWG SIZE 3
REV 0
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons-Arabian Industries (JV)
CONTRACT NO. : C31/0606
PROJ. NO. : PAIP00405
MTO DWG. No. :
NIM 3 2144 543 DQ 4
W:\3_Piping\WPAI-PDO EMC JOBS (C310606)\PROJECTS\PAIP-PROJECT-JOBS\PAIP00405_DQ\ISO\32144043_DQ.dwg 11-APR-2011 11:19:25 AM laila.al-fazari



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Line Number : P481329

Job No. : PAIP00405

Station :

Isometric Dwg No. : NIM-3-2144-011-DQ-3

Proj. Code : DQ

Isowise MTO No. : NIM-3-2144-511-DQ-4

WBS No : NIM.IN.09.011

MTO Rev. No. : O

MATERIAL FOR FABRICATION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	23.5	74.30.03.211.1	31440X	150		Pipe	ASTM A106-B	S 40		
2	7	76.30.42.665.1	31440X	150		Elbow 90 Deg Bw	ASTM A234-WPB	S 40		
3	3	76.30.81.665.1	31440X	150		Equal Tee Bw	ASTM A234-WPB	S 40		
4	8	76.79.01.064.1	31440X	150	50	Branch Outlet Bw	ASTM A105	S 40 x S 80		
5	29	76.62.78.566.1	31440X	150		Weld Neck Rf Flange	ASTM A105	S 40	300#	
6	8	76.62.78.610.1	31440X	50		Weld Neck Rf Flange	ASTM A105	S 80	300#	

MATERIAL FOR ERECTION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
7	1	76.62.20.320.1	31440X	50		Lap Joint Flange	ASTM A105		300#	
8	4	76.88.37.056.1	31440X	150		Spectacle Blind	ASTM A516-60/65/70		300#	
9	1	76.83.38.562.1	31440X	50	255	Thermowell	ASTM B564 UNS N04400		150# / 2500#	
10	4	85.41.36.374.1	31440X	150		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
11	8	85.41.36.414.1	31440X	50		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
12	5	NON MESC	31440X	150		Ball Valve 14313 FB Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
13	1	BY INST	300#	150		Flow Meter			300#	
14	2	NON MESC	31440X	50		Chemical Injection Quill	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	CHEMICAL INJ.
15	2	NON MESC	31440X	150		Basket Strainer	Body: ASTM A105/A216-WCB/WCC Internal glass flake coating Trim: 25% Cr Duplex		300#	
16	16	81.38.66.273.1	31440X	.625	100	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
17	216	81.38.66.337.1	31440X	.75	150	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
18	48	81.38.66.340.1	31440X	.75	170	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			
19	48	81.38.66.278.1	31440X	.625	130	Stud Bolt With Nuts - Temp Inst	ASTM A193-B7M/A194-2HM			
20	5	NON MESC	31440X	50	50	Modular Constr. SBBV	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	

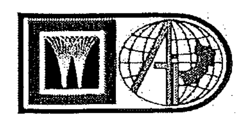
Prepared by **Checked by** **Approved by**

Notes :

1. UOM of Sizes are in mm except Stud Bolts (Size 1 in inch & Size 2 in mm).

2. PIPE Quantities are in meters & all other Items are in Numbers.

APPROVED FOR CONSTRUCTION



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Job No. : PAIP00405

Station :

Proj. Code : DQ

WBS No : NIM.IN.09.011

Line Number : P481329

Isometric Dwg No. : NIM-3-2144-012-DQ-3

Isowise MTO No. : NIM-3-2144-512-DQ-4

MTO Rev. No. : O

MATERIAL FOR FABRICATION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	1.5	74.30.03.071.1	31440X	50		Pipe	ASTM A106-B	S 80		
2	64.5	74.30.03.211.1	31440X	150		Pipe	ASTM A106-B	S 40		
3	8	76.30.42.572.1	31440X	15		Elbow 90 Deg Bw	ASTM A234-WPB	S 160		
4	1	76.30.42.608.1	31440X	50		Elbow 90 Deg Bw	ASTM A234-WPB	S 80		
5	5	76.30.42.665.1	31440X	150		Elbow 90 Deg Bw	ASTM A234-WPB	S 40		
6	4	76.79.01.064.1	31440X	150	50	Branch Outlet Bw	ASTM A105	S 40 x S 80		
7	4	76.80.37.121.1	31440X	600	15	Branch Fitting Flgd	ASTM A105	S 160	300#	
8	30	76.62.78.566.1	31440X	150		Weld Neck Rf Flange	ASTM A105	S 40	300#	
9	8	76.62.78.610.1	31440X	50		Weld Neck Rf Flange	ASTM A105	S 80	300#	
10	4	76.62.78.652.1	31440X	15		Weld Neck Rf Flange	ASTM A105	S 160	300#	

MATERIAL FOR ERECTION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
11	2	76.62.11.120.1	31440X	50		Blind Flange	ASTM A105		300#	
12	8	85.41.36.404.1	31440X	15		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
13	3	85.41.36.414.1	31440X	50		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
14	2	NON MESC	31440X	50		Ball Valve 14313 RB Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
15	1	NON MESC	31440X	150		Ball Valve 14313 RB Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
16	4	77.30.05.353.1	31440X	15		Globe Valve Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
17	1	NON MESC	31440X	50		Check Valve Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
18	1	NON MESC	31440X	150		Check Valve Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
19	32	81.38.66.155.1	31440X	.5	70	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
20	204	81.38.66.337.1	31440X	.75	150	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
21	72	81.38.66.274.1	31440X	.625	110	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			
22	12	81.38.66.340.1	31440X	.75	170	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			
23	1	NON MESC	31440X	50	50	Modular Constr. SBBV	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	

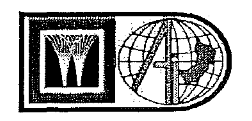
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Notes :

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2. PIPE Quantities are in meters & all other Items are in Numbers.

APPROVED FOR CONSTRUCTION



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Job No. : PAIP00405

Station :

Proj. Code : DQ

WBS No : NIM.IN.09.011

Line Number : P481330

Isometric Dwg No. : NIM-3-2144-013-DQ-3

Isowise MTO No. : NIM-3-2144-513-DQ-4

MTO Rev. No. : O

MATERIAL FOR FABRICATION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	8.5	74.30.03.211.1	31440X	150		Pipe	ASTM A106-B	S 40		
2	3	76.30.42.665.1	31440X	150		Elbow 90 Deg Bw	ASTM A234-WPB	S 40		
3	3	76.79.01.064.1	31440X	150	50	Branch Outlet Bw	ASTM A105	S 40 x S 80		
4	12	76.62.78.566.1	31440X	150		Weld Neck Rf Flange	ASTM A105	S 40	300#	
5	3	76.62.78.610.1	31440X	50		Weld Neck Rf Flange	ASTM A105	S 80	300#	

MATERIAL FOR ERECTION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
6	1	76.62.11.120.1	31440X	50		Blind Flange	ASTM A105		300#	
7	1	76.88.37.056.1	31440X	150		Spectacle Blind	ASTM A516-60/65/70		300#	
8	2	85.41.36.414.1	31440X	50		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
9	1	NON MESC	31440X	50		Ball Valve 14313 RB Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
10	1	NON MESC	31440X	150		Ball Valve 14313 FB Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
11	1	NON MESC	31440X	150		Check Valve Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
12	32	81.38.66.273.1	31440X	.625	100	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
13	96	81.38.66.337.1	31440X	.75	150	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
14	12	81.38.66.340.1	31440X	.75	170	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			
15	1	NON MESC	31440X	50	50	Modular Constr. SBBV	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	

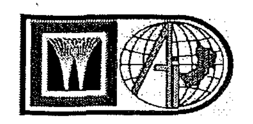
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Notes :

1. UOM of Sizes are in mm except Stud Bolts (Size 1 in inch & Size 2 in mm).

2. PIPE Quantities are in meters & all other Items are in Numbers.

APPROVED FOR CONSTRUCTION



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Job No. : PAIP00405

Station :

Proj. Code : DQ

WBS No : NIM.IN.09.011

Line Number : P481331

Isometric Dwg No. : NIM-3-2144-014-DQ-3

Isowise MTO No. : NIM-3-2144-514-DQ-4

MTO Rev. No. : O

MATERIAL FOR FABRICATION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	.5	74.36.33.057.1	33421	50		Pipe	ASTM A312-TP316L	S10S		
2	2	76.65.79.410.1	33421	50		Weld Neck Rf Flange	ASTM A182-F316	S10S	300#	

MATERIAL FOR ERECTION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
3	1	85.41.36.414.1	33421	50		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
4	8	81.38.66.278.1	33421	.625	130	Stud Bolt With Nuts - Meter Run	ASTM A193-B7M/A194-2HM			

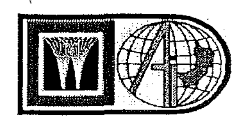
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Notes :

1. UOM of Sizes are in mm except Stud Bolts (Size 1 in inch & Size 2 in mm).

2. PIPE Quantities are in meters & all other Items are in Numbers.

APPROVED FOR CONSTRUCTION



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Job No. : PAIP00405

Station :

Proj. Code : DQ

WBS No : NIM.IN.09.011

Line Number : P481331

Isometric Dwg No. : NIM-3-2144-015-DQ-3

Isowise MTO No. : NIM-3-2144-515-DQ-4

MTO Rev. No. : O

MATERIAL FOR FABRICATION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	.5	74.36.33.057.1	33421	50		Pipe	ASTM A312-TP316L	S10S		
2	2	76.65.79.410.1	33421	50		Weld Neck Rf Flange	ASTM A182-F316	S10S	300#	

MATERIAL FOR ERECTION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
3	1	85.41.36.414.1	33421	50		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
4	8	81.38.66.278.1	33421	.625	130	Stud Bolt With Nuts - Meter Run	ASTM A193-B7M/A194-2HM			

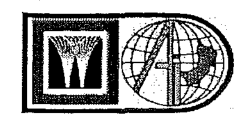
Prepared by **Checked by** **Approved by**

Notes :

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2. PIPE Quantities are in meters & all other Items are in Numbers.

APPROVED FOR CONSTRUCTION



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Job No. : PAIP00405

Station :

Proj. Code : DQ

WBS No : NIM.IN.09.011

Line Number : P481335

Isometric Dwg No. : NIM-3-2144-017-DQ-3

Isowise MTO No. : NIM-3-2144-517-DQ-4

MTO Rev. No. : O

MATERIAL FOR FABRICATION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	.5	74.30.03.071.1	31440X	50		Pipe	ASTM A106-B	S 80		
2	1	74.30.03.149.1	31440X	100		Pipe	ASTM A106-B	S 40		
3	42.5	74.30.03.211.1	31440X	150		Pipe	ASTM A106-B	S 40		
4	1	76.30.34.665.1	31440X	150		Elbow 45 Deg Bw	ASTM A234-WPB	S 40		
5	4	76.30.42.572.1	31440X	15		Elbow 90 Deg Bw	ASTM A234-WPB	S 160		
6	3	76.30.42.608.1	31440X	50		Elbow 90 Deg Bw	ASTM A234-WPB	S 80		
7	1	76.30.42.645.1	31440X	100		Elbow 90 Deg Bw	ASTM A234-WPB	S 40		
8	4	76.30.42.665.1	31440X	150		Elbow 90 Deg Bw	ASTM A234-WPB	S 40		
9	1	76.30.66.305.1	31440X	150	100	Reducer Conc.Bw	ASTM A234-WPB	S 40 x S 40		
10	4	76.79.01.064.1	31440X	150	50	Branch Outlet Bw	ASTM A105	S 40 x S 80		
11	2	76.80.37.121.1	31440X	600	15	Branch Fitting Flgd	ASTM A105	S 160	300#	
12	1	76.62.78.314.1	11440	100		Weld Neck Rf Flange	ASTM A105	S40	150#	
13	23	76.62.78.566.1	31440X	150		Weld Neck Rf Flange	ASTM A105	S 40	300#	
14	9	76.62.78.610.1	31440X	50		Weld Neck Rf Flange	ASTM A105	S 80	300#	
15	2	76.62.78.652.1	31440X	15		Weld Neck Rf Flange	ASTM A105	S 160	300#	

MATERIAL FOR ERECTION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
16	1	76.88.37.050.1	31440X	50		Spectacle Blind	ASTM A516-60/65/70		300#	
17	1	76.88.37.056.1	31440X	150		Spectacle Blind	ASTM A516-60/65/70		300#	
18	1	85.41.36.374.1	31440X	150		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
19	4	85.41.36.404.1	31440X	15		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
20	2	85.41.36.414.1	31440X	50		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
21	5	NON MESC	31440X	50		Ball Valve 14313 RB Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
22	1	NON MESC	31440X	150		Ball Valve 14313 FB Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
23	2	77.30.05.353.1	31440X	15		Globe Valve Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
24	16	81.38.66.155.1	31440X	.5	70	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
25	96	81.38.66.273.1	31440X	.625	100	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
26	144	81.38.66.337.1	31440X	.75	150	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
27	8	81.38.66.274.1	31440X	.625	110	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			
28	12	81.38.66.340.1	31440X	.75	170	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Job No. : PAIP00405

Station :

Proj. Code : DQ

WBS No : NIM.IN.09.011

Line Number : P481335

Isometric Dwg No. : NIM-3-2144-017-DQ-3

Isowise MTO No. : NIM-3-2144-517-DQ-4

MTO Rev. No. : O

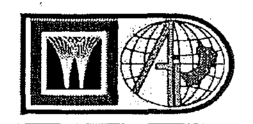
Prepared by **Checked by** **Approved by**

Notes :

1. UOM of Sizes are in mm except Stud Bolts (Size 1 in inch & Size 2 in mm).

2. PIPE Quantities are in meters & all other Items are in Numbers.

APPROVED FOR CONSTRUCTION



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Line Number : P481335

Job No. : PAIP00405

Station :

Isometric Dwg No. : NIM-3-2144-018-DQ-3

Proj. Code : DQ

Isowise MTO No. : NIM-3-2144-518-DQ-4

WBS No : NIM.IN.09.011

MTO Rev. No. : O

MATERIAL FOR FABRICATION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	3.5	74.30.03.020.1	31440X	15		Pipe	ASTM A106-B	S 160		
2	28.5	74.30.03.211.1	31440X	150		Pipe	ASTM A106-B	S 40		
3	8	74.30.05.373.1	11412	350		Pipe	ASTM A106-B	S20		
4	4	76.30.42.572.1	31440X	15		Elbow 90 Deg Bw	ASTM A234-WPB	S 160		
5	3	76.30.42.665.1	31440X	150		Elbow 90 Deg Bw	ASTM A234-WPB	S 40		
6	1	76.30.81.665.1	31440X	150		Equal Tee Bw	ASTM A234-WPB	S 40		
7	3	76.79.01.064.1	31440X	150	50	Branch Outlet Bw	ASTM A105	S 40 x S 80		
8	2	76.80.37.121.1	31440X	600	15	Branch Fitting Flgd	ASTM A105	S 160	300#	
9	9	76.62.78.566.1	31440X	150		Weld Neck Rf Flange	ASTM A105	S 40	300#	
10	2	76.62.78.610.1	31440X	50		Weld Neck Rf Flange	ASTM A105	S 80	300#	
11	6	76.62.78.652.1	31440X	15		Weld Neck Rf Flange	ASTM A105	S 160	300#	

MATERIAL FOR ERECTION

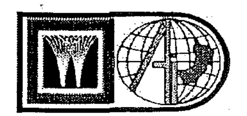
Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
12	1	76.88.37.050.1	31440X	50		Spectacle Blind	ASTM A516-60/65/70		300#	
13	6	85.41.36.404.1	31440X	15		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
14	3	85.41.36.414.1	31440X	50		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
15	2	77.30.05.353.1	31440X	15		Globe Valve Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
16	1	BY INST	300#	150		Emergency Shut Down Valve			300#	48-UZV-2660
17	24	81.38.66.155.1	31440	.5	70	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
18	8	81.38.66.273.1	31440X	.625	100	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
19	60	81.38.66.337.1	31440X	.75	150	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
20	16	81.38.66.274.1	31440X	.625	110	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			
21	3	NON MESC	31440X	50	50	Modular Constr. SBBV	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	

Prepared by **Checked by** **Approved by**

Notes :

1. UOM of Sizes are in mm except Stud Bolts (Size 1 in inch & Size 2 in mm).
2. PIPE Quantities are in meters & all other Items are in Numbers.

APPROVED FOR CONSTRUCTION



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD | Discipline : Mechanical & Piping

Area : NIMR | Line Number : P481362

Job No. : PAIP00405 | Station : | Isometric Dwg No. : NIM-3-2144-019-DQ-3

Proj. Code : DQ | Isowise MTO No. : NIM-3-2144-519-DQ-4

WBS No : NIM.IN.09.011 | MTO Rev. No. : O

MATERIAL FOR FABRICATION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	95	74.30.03.211.1	31440X	150		Pipe	ASTM A106-B	S 40		
2	8	74.30.05.373.1	11412	350		Pipe	ASTM A106-B	S20		
3	16	76.30.42.572.1	31440X	15		Elbow 90 Deg Bw	ASTM A234-WPB	S 160		
4	1	76.30.42.608.1	31440X	50		Elbow 90 Deg Bw	ASTM A234-WPB	S 80		
5	9	76.30.42.665.1	31440X	150		Elbow 90 Deg Bw	ASTM A234-WPB	S 40		
6	2	76.79.01.064.1	31440X	150	50	Branch Outlet Bw	ASTM A105	S 40 x S 80		
7	8	76.80.37.121.1	31440X	600	15	Branch Fitting Flgd	ASTM A105	S 160	300#	
8	28	76.62.78.566.1	31440X	150		Weld Neck Rf Flange	ASTM A105	S 40	300#	
9	8	76.62.78.610.1	31440X	50		Weld Neck Rf Flange	ASTM A105	S 80	300#	
10	12	76.62.78.652.1	31440X	15		Weld Neck Rf Flange	ASTM A105	S 160	300#	

MATERIAL FOR ERECTION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
11	1	76.62.11.120.1	31440X	50		Blind Flange	ASTM A105		300#	
12	1	76.88.37.050.1	31440X	50		Spectacle Blind	ASTM A516-60/65/70		300#	
13	1	76.88.37.056.1	31440X	150		Spectacle Blind	ASTM A516-60/65/70		300#	
14	1	85.41.36.374.1	31440X	150		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
15	18	85.41.36.404.1	31440X	15		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
16	4	85.41.36.414.1	31440X	50		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
17	3	NON MESC	31440X	50		Ball Valve 14313 RB Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
18	1	NON MESC	31440X	150		Ball Valve 14313 FB Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
19	1	NON MESC	31440X	50		Check Valve Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
20	64	81.38.66.155.1	31440X	.5	70	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
21	64	81.38.66.273.1	31440X	.625	100	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
22	168	81.38.66.337.1	31440X	.75	150	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
23	8	81.38.66.274.1	31440X	.625	110	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			
24	12	81.38.66.340.1	31440X	.75	170	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			

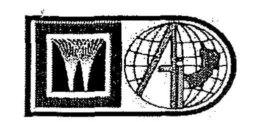
Prepared by **Checked by** **Approved by**

Notes :

1. UOM of Sizes are in mm except Stud Bolts (Size 1 in inch & Size 2 in mm).

2. PIPE Quantities are in meters & all other Items are in Numbers.

APPROVED FOR CONSTRUCTION



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Job No. : PAIP00405

Station :

Proj. Code : DQ

WBS No : NIM.IN.09.011

Line Number : P481362

Isometric Dwg No. : NIM-3-2144-020-DQ-3

Isowise MTO No. : NIM-3-2144-520-DQ-4

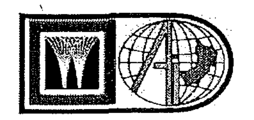
MTO Rev. No. : O

MATERIAL FOR FABRICATION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	2	74.30.03.071.1	31440X	50		Pipe	ASTM A106-B	S 80		
2	36	74.30.03.211.1	31440X	150		Pipe	ASTM A106-B	S 40		
3	4	76.30.34.665.1	31440X	150		Elbow 45 Deg Bw	ASTM A234-WPB	S 40		
4	4	76.30.42.572.1	31440X	15		Elbow 90 Deg Bw	ASTM A234-WPB	S 160		
5	2	76.30.42.608.1	31440X	50		Elbow 90 Deg Bw	ASTM A234-WPB	S 80		
6	2	76.30.42.665.1	31440X	150		Elbow 90 Deg Bw	ASTM A234-WPB	S 40		
7	1	76.30.88.189.1	31440X	150	100	Tee Reducing Bw	ASTM A234-WPB	S 40 x S 40		
8	5	76.79.01.064.1	31440X	150	50	Branch Outlet Bw	ASTM A105	S 40 x S 80		
9	2	76.80.37.121.1	31440X	600	15	Branch Fitting Flgd	ASTM A105	S 160	300#	
10	1	76.62.78.564.1	31440X	100		Weld Neck Rf Flange	ASTM A105	S 40	300#	
11	22	76.62.78.566.1	31440X	150		Weld Neck Rf Flange	ASTM A105	S 40	300#	
12	11	76.62.78.610.1	31440X	50		Weld Neck Rf Flange	ASTM A105	S 80	300#	
13	2	76.62.78.652.1	31440X	15		Weld Neck Rf Flange	ASTM A105	S 160	300#	

MATERIAL FOR ERECTION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
14	4	76.62.11.120.1	31440X	50		Blind Flange	ASTM A105		300#	
15	1	76.62.11.126.1	31440X	150		Blind Flange	ASTM A105		300#	
16	1	76.88.37.056.1	31440X	150		Spectacle Blind	ASTM A516-60/65/70		300#	
17	4	85.41.36.404.1	31440X	15		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
18	6	85.41.36.414.1	31440X	50		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
19	4	NON MESC	31440X	50		Ball Valve 14313 RB Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
20	2	77.30.05.353.1	31440X	15		Globe Valve Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
21	1	NON MESC	31440X	50		Check Valve Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
22	1	NON MESC	31440X	150		Check Valve Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
23	16	81.38.66.155.1	31440X	.5	70	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
24	104	81.38.66.273.1	31440X	.625	100	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
25	144	81.38.66.337.1	31440X	.75	150	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
26	12	81.38.66.340.1	31440X	.75	170	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			
27	1	NON MESC	31440X	50	50	Modular Constr. SBBV	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Job No. : PAIP00405

Station :

Proj. Code : DQ

WBS No : NIM.IN.09.011

Line Number : P481362

Isometric Dwg No. : NIM-3-2144-020-DQ-3

Isowise MTO No. : NIM-3-2144-520-DQ-4

MTO Rev. No. : O

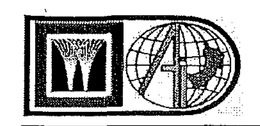
Prepared by **Checked by** **Approved by**

Notes :

1. UOM of Sizes are in mm except Stud Bolts (Size 1 in inch & Size 2 in mm).

2. PIPE Quantities are in meters & all other Items are in Numbers.

APPROVED FOR CONSTRUCTION



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Job No. : PAIP00405

Station :

Proj. Code : DQ

WBS No : NIM.IN.09.011

Line Number : P481334

Isometric Dwg No. : NIM-3-2144-023-DQ-3

Isowise MTO No. : NIM-3-2144-523-DQ-4

MTO Rev. No. : O

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
MATERIAL FOR FABRICATION										
1	9	74.30.03.071.1	11440	50		Pipe	ASTM A106-B	S80		
2	2	76.30.42.608.1	11440	50		Elbow 90 Deg Bw	ASTM A234-WPB	S80		
3	4	76.62.78.360.1	11440	50		Weld Neck Rf Flange	ASTM A105	S80	150#	
MATERIAL FOR ERECTION										
4	2	76.62.11.070.1	11440	50		Blind Flange	ASTM A105		150#	
5	2	76.88.37.020.1	11440	250		Spectacle Blind	ASTM A516-60/65/70		150#	
6	2	85.41.36.314.1	11440	50		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		150#	
7	2	85.41.36.328.1	11440	250		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		150#	
8	2	85.46.03.066.1	11440	50		Insulating Gasket	GRE G10 - Mylar	S80	150#	
9	2	NON MESC	11440X	50		Ball Valve RB Flgd.	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		150#	
10	1	NON MESC	11440X	250		Ball Valve 14313 FB Flgd	Body: ASTM A105/A216 WCB/WCC WITH ALLOY 625 CLAD Trim: SDSS, PTFE		150#	
11	8	81.38.66.271.1	11440	.625	90	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
12	8	81.38.66.273.1	11440	.625	100	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			

Prepared by  **Checked by** **Approved by** 

Notes :

1. UOM of Sizes are in mm except Stud Bolts (Size 1 in inch & Size 2 in mm).

2. PIPE Quantities are in meters & all other Items are in Numbers.

APPROVED FOR CONSTRUCTION



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Line Number : P481357

Job No. : PAIP00405

Station :

Isometric Dwg No. : NIM-3-2144-024-DQ-3

Proj. Code : DQ

Isowise MTO No. : NIM-3-2144-524-DQ-4

WBS No : NIM.IN.09.011

MTO Rev. No. : O

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
MATERIAL FOR FABRICATION										
1	.5	74.30.03.020.1	31440	15		Pipe	ASTM A106-B	S160		
2	1.5	74.30.03.071.1	31440	50		Pipe	ASTM A106-B	S80		
3	1	76.30.42.572.1	31440	15		Elbow 90 Deg Bw	ASTM A234-WPB	S160		
4	2	76.30.42.608.1	31440	50		Elbow 90 Deg Bw	ASTM A234-WPB	S80		
5	2	76.30.81.608.1	31440	50		Equal Tee Bw	ASTM A234-WPB	S80		
6	1	76.30.67.141.1	31440	20	15	Reducer Ecc.Bw	ASTM A234-WPB	S160 × S160		
7	1	76.30.67.193.1	31440	50	20	Reducer Ecc.Bw	ASTM A234-WPB	S80 × S160		
8	3	76.62.78.610.1	31440	50		Weld Neck Rf Flange	ASTM A105	S80	300#	
9	2	76.62.78.652.1	31440	15		Weld Neck Rf Flange	ASTM A105	S160	300#	
MATERIAL FOR ERECTION										
Sr. No.	**Quantity**	**MESC Number**	**Class**	**Size 1**	**Size 2**	**Description**	**Material**	**Sch./WT**	**Rating**	**Tag No.**
10	2	85.41.36.404.1	31440	15		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
11	1	77.30.05.353.1	31440	15		Globe Valve Flgd	Body: ASTM A105/A216-WCB/WCC Trim: AISI 316, Stellite 6		300#	
12	8	81.38.66.155.1	31440	.5	70	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			

Prepared by **Checked by** **Approved by**

Notes :

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2. PIPE Quantities are in meters & all other Items are in Numbers.

APPROVED FOR CONSTRUCTION



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Job No. : PAIP00405

Station :

Proj. Code : DQ

WBS No : NIM.IN.09.011

Line Number : D48183 / P48079

Isometric Dwg No. : NIM-3-2144-025-DQ-3

Isowise MTO No. : NIM-3-2144-525-DQ-4

MTO Rev. No. : O

MATERIAL FOR ERECTION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	1	76.62.11.070.1	11440	50		Blind Flange	ASTM A105		150#	
2	1	76.62.11.074.1	11440	100		Blind Flange	ASTM A105		150#	
3	1	85.41.36.314.1	11440	50		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		150#	
4	1	85.41.36.320.1	11440	100		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		150#	
5	4	81.38.66.271.1	11440	.625	90	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
6	8	81.38.66.273.1	11440	.625	100	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			

Prepared by **Checked by** **Approved by**

Notes :

1. UOM of Sizes are in mm except Stud Bolts (Size 1 in inch & Size 2 in mm).

2. PIPE Quantities are in meters & all other Items are in Numbers.

APPROVED FOR CONSTRUCTION



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Job No. : PAIP00405

Station :

Proj. Code : DQ

WBS No : NIM.IN.09.011

Line Number : P481329

Isometric Dwg No. : NIM-3-2144-027-DQ-3

Isowise MTO No. : NIM-3-2144-527-DQ-4

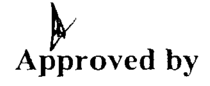
MTO Rev. No. : O

MATERIAL FOR FABRICATION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	.5	74.36.33.026.1	33411	20		Pipe	ASTM A312-TP316L	S40S		
2	1	76.33.85.618.1	33411	20	15	Tee Reducing Bw	ASTM A403-WP316L	S40S× S40S		
3	1	76.65.80.402.1	33411	15		Weld Neck Rf Flange	ASTM A182-F316	S40S	300#	
4	2	76.65.80.404.1	33411	20		Weld Neck Rf Flange	ASTM A182-F316	S40S	300#	

MATERIAL FOR ERECTION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
5	1	76.65.10.412.1	33411	15		Blind Flange	ASTM A182-F316		300#	
6	1	76.65.10.414.1	33411	20		Blind Flange	ASTM A182-F316		300#	
7	2	85.41.36.404.1	33411	15		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
8	4	85.41.36.406.1	33411	20		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
9	1	77.23.03.353.1	33411	15		Gate Valve Flgd	Body: ASTM A182-F316/A351-CF8M Trim: AISI 316, Stellite 6		300#	
10	1	77.23.03.354.1	33411	20		Gate Valve Flgd	Body: ASTM A182-F316/A351-CF8M Trim: AISI 316, Stellite 6		300#	
11	1	77.13.19.354.1	33411	20		Check Valve Flgd	Body: ASTM A182-F316/A351-CF8M Trim: AISI 316, Stellite 6		300#	
12	8	81.38.61.155.1	33411	.5	70	Stud Bolt With Nuts - Flange	ASTM A193-B7/A194-2H			
13	16	81.38.61.269.1	33411	.625	80	Stud Bolt With Nuts - Flange	ASTM A193-B7/A194-2H			

Prepared by  **Checked by** **Approved by** 

Notes :

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2. PIPE Quantities are in meters & all other Items are in Numbers.

APPROVED FOR CONSTRUCTION



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Line Number : B481024

Job No. : PAIP00405

Station :

Isometric Dwg No. : NIM-3-2144-028-DQ-3

Proj. Code : DQ

Isowise MTO No. : NIM-3-2144-528-DQ-4

WBS No : NIM.IN.09.011

MTO Rev. No. : O

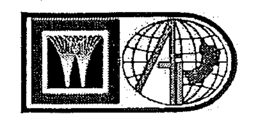
Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
MATERIAL FOR FABRICATION										
1	3	74.30.03.109.1	11440	80		Pipe	ASTM A106-B	S80		
2	2	76.30.42.628.1	11440	80		Elbow 90 Deg Bw	ASTM A234-WPB	S80		
3	1	76.62.78.362.1	11440	80		Weld Neck Rf Flange	ASTM A105	S80	150#	
MATERIAL FOR ERECTION										
4	1	85.46.03.082.1	11440	80		Insulating Gasket	GRE G10 - Mylar	S80	150#	
5	4	81.38.66.273.1	11440	.625	100	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			

Prepared by **Checked by** **Approved by**

Notes :

1. UOM of Sizes are in mm except Stud Bolts (Size 1 in inch & Size 2 in mm).
2. PIPE Quantities are in meters & all other Items are in Numbers.

APPROVED FOR CONSTRUCTION



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Line Number : B481025

Job No. : PAIP00405

Station :

Isometric Dwg No. : NIM-3-2144-029-DQ-3

Proj. Code : DQ

Isowise MTO No. : NIM-3-2144-529-DQ-4

WBS No : NIM.IN.09.011

MTO Rev. No. : O

MATERIAL FOR FABRICATION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	3	74.30.03.109.1	11440	80		Pipe	ASTM A106-B	S80		
2	2	76.30.42.628.1	11440	80		Elbow 90 Deg Bw	ASTM A234-WPB	S80		
3	1	76.62.78.362.1	11440	80		Weld Neck Rf Flange	ASTM A105	S80	150#	

MATERIAL FOR ERECTION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
4	1	85.46.03.082.1	11440	80		Insulating Gasket	GRE G10 - Mylar	S80	150#	
5	4	81.38.66.273.1	11440	.625	100	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			

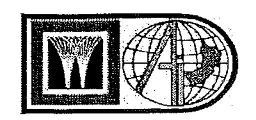
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Notes :

1. UOM of Sizes are in mm except Stud Bolts (Size 1 in inch & Size 2 in mm).

2. PIPE Quantities are in meters & all other Items are in Numbers.





Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Job No. : PAIP00405

Station :

Proj. Code : DQ

WBS No : NIM.IN.09.011

Line Number : B481031

Isometric Dwg No. : NIM-3-2144-030-DQ-3

Isowise MTO No. : NIM-3-2144-530-DQ-4

MTO Rev. No. : O

MATERIAL FOR FABRICATION										
Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	6.5	74.30.03.071.1	31440X	50		Pipe	ASTM A106-B	S 80		
2	1	76.30.34.608.1	31440X	50		Elbow 45 Deg Bw	ASTM A234-WPB	S 80		
3	3	76.30.42.608.1	31440X	50		Elbow 90 Deg Bw	ASTM A234-WPB	S 80		
4	1	76.30.81.608.1	31440X	50		Equal Tee Bw	ASTM A234-WPB	S 80		
5	9	76.62.78.610.1	31440X	50		Weld Neck Rf Flange	ASTM A105	S 80	300#	
MATERIAL FOR ERECTION										
Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
6	1	76.62.11.120.1	31440X	50		Blind Flange	ASTM A105		300#	
7	1	76.88.37.050.1	31440X	50		Spectacle Blind	ASTM A516-60/65/70		300#	
8	1	85.41.36.414.1	31440X	50		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
9	2	NON MESC	31440X	50		Ball Valve 14313 RB Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
10	56	81.38.66.273.1	31440X	.625	100	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
11	8	81.38.66.274.1	31440X	.625	110	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			

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Approved by

Notes :

1. UOM of Sizes are in mm except Stud Bolts (Size 1 in inch & Size 2 in mm).
2. PIPE Quantities are in meters & all other Items are in Numbers.

APPROVED FOR CONSTRUCTION



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Job No. : PAIP00405

Station :

Proj. Code : DQ

WBS No : NIM.IN.09.011

Line Number : B481032

Isometric Dwg No. : NIM-3-2144-031-DQ-3

Isowise MTO No. : NIM-3-2144-531-DQ-4

MTO Rev. No. : O

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
MATERIAL FOR FABRICATION										
1	8	74.30.03.071.1	31440X	50		Pipe	ASTM A106-B	S 80		
2	3	76.30.42.608.1	31440X	50		Elbow 90 Deg Bw	ASTM A234-WPB	S 80		
3	1	76.30.81.608.1	31440X	50		Equal Tee Bw	ASTM A234-WPB	S 80		
4	8	76.62.78.610.1	31440X	50		Weld Neck Rf Flange	ASTM A105	S 80	300#	
MATERIAL FOR ERECTION										
Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
5	1	76.62.11.120.1	31440X	50		Blind Flange	ASTM A105		300#	
6	1	76.88.37.050.1	31440X	50		Spectacle Blind	ASTM A516-60/65/70		300#	
7	1	85.41.36.414.1	31440X	50		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
8	2	NON MESC	31440X	50		Ball Valve 14313 RB Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
9	48	81.38.66.273.1	31440X	.625	100	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
10	8	81.38.66.274.1	31440X	.625	110	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			

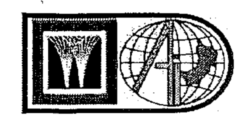
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Notes :

1. UOM of Sizes are in mm except Stud Bolts (Size 1 in inch & Size 2 in mm).

2. PIPE Quantities are in meters & all other Items are in Numbers.

APPROVED FOR CONSTRUCTION



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Job No. : PAIP00405

Station :

Proj. Code : DQ

WBS No : NIM.IN.09.011

Line Number : B481036

Isometric Dwg No. : NIM-3-2144-032-DQ-3

Isowise MTO No. : NIM-3-2144-532-DQ-4

MTO Rev. No. : O

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
MATERIAL FOR FABRICATION										
1	26.5	74.30.03.071.1	11440	50		Pipe	ASTM A106-B	S80		
2	5	76.30.42.608.1	11440	50		Elbow 90 Deg Bw	ASTM A234-WPB	S80		
3	3	76.30.81.608.1	11440	50		Equal Tee Bw	ASTM A234-WPB	S80		
4	3	76.62.78.360.1	11440	50		Weld Neck Rf Flange	ASTM A105	S80	150#	
5	2	76.62.78.610.1	31440	50		Weld Neck Rf Flange	ASTM A105	S80	300#	
MATERIAL FOR ERECTION										
Sr. No.	**Quantity**	**MESC Number**	**Class**	**Size 1**	**Size 2**	**Description**	**Material**	**Sch./WT**	**Rating**	**Tag No.**
6	1	76.88.37.010.1	11440	50		Spectacle Blind	ASTM A516-60/65/70		150#	
7	3	85.41.36.314.1	11440	50		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		150#	
8	1	77.00.25.008.1	11440	50		Ball Valve RB Flgd.	Body: ASTM A105/A216-WCB/WCC Trim: AISI 316, PTFE		150#	
9	4	81.38.66.271.1	11440	.625	90	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
10	4	81.38.66.273.1	11440	.625	100	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			



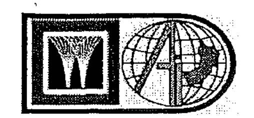
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Notes :

1. UOM of Sizes are in mm except Stud Bolts (Size 1 in inch & Size 2 in mm).

2. PIPE Quantities are in meters & all other Items are in Numbers.

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Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Job No. : PAIP00405

Station :

Proj. Code : DQ

WBS No : NIM.IN.09.011

Line Number : B481039

Isometric Dwg No. : NIM-3-2144-033-DQ-3

Isowise MTO No. : NIM-3-2144-533-DQ-4

MTO Rev. No. : O

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
MATERIAL FOR FABRICATION										
1	63.5	74.30.03.071.1	11440	50		Pipe	ASTM A106-B	S80		
2	5	76.30.42.608.1	11440	50		Elbow 90 Deg Bw	ASTM A234-WPB	S80		
3	2	76.62.78.360.1	11440	50		Weld Neck Rf Flange	ASTM A105	S80	150#	
MATERIAL FOR ERECTION										
4	1	76.88.37.010.1	11440	50		Spectacle Blind	ASTM A516-60/65/70		150#	
5	3	85.41.36.314.1	11440	50		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		150#	
6	1	77.00.25.008.1	11440	50		Ball Valve RB Flgd.	Body: ASTM A105/A216-WCB/WCC Trim: AISI 316, PTFE		150#	
7	4	81.38.66.271.1	11440	.625	90	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
8	4	81.38.66.273.1	11440	.625	100	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			

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Notes :

1. UOM of Sizes are in mm except Stud Bolts (Size 1 in inch & Size 2 in mm).
2. PIPE Quantities are in meters & all other Items are in Numbers.

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Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Line Number : A48911

Job No. : PAIP00405

Station :

Isometric Dwg No. : NIM-3-2144-036-DQ-3

Proj. Code : DQ

Isowise MTO No. : NIM-3-2144-536-DQ-4

WBS No : NIM.IN.09.011

MTO Rev. No. : O

MATERIAL FOR FABRICATION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	.5	74.13.08.018.1	18011	15		Pipe	API 5L-B (galvanised)	S80		
2	.5	74.13.08.028.1	18011	25		Pipe	API 5L-B (galvanised)	S80		
3	1	76.06.85.034.1	18011	25	15	Tee Reducing Thrd	ASTM A234-WPB (galvanised)	S80 × S80		
4	1	76.06.28.016.1	18011	25		Coupling Thrd	ASTM A234-WPB (galvanised)	S80		
5	1	76.06.66.008.1	18011	15		Plug Npt	ASTM A234-WPB (galvanised)	S80		
6	1	76.06.91.016.1	18011	25		Union Thrd	ASTM A234-WPB (galvanised)	S80		

MATERIAL FOR ERECTION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
7	1	77.07.03.153.1	18011	15		Ball Valve Float RB Thrd.	ASTM B148-UNS C95400,TRIM:ALUMINIUM BRONZE,PTFE		800#	

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Notes :

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APPROVED FOR CONSTRUCTION



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Job No. : PAIP00405 Station :

Proj. Code : DQ

WBS No : NIM.IN.09.011

Line Number : D482612

Isometric Dwg No. : NIM-3-2144-037-DQ-3

Isowise MTO No. : NIM-3-2144-537-DQ-4

MTO Rev. No. : O

MATERIAL FOR FABRICATION										
Sr. No.	**Quantity**	**MESC Number**	**Class**	**Size 1**	**Size 2**	**Description**	**Material**	**Sch./WT**	**Rating**	**Tag No.**
1	2.2	74.30.03.071.1	11440	50		Pipe	ASTM A106-B	S80		
2	26	74.30.03.149.1	11440	100		Pipe	ASTM A106-B	S40		
3	4	76.30.42.608.1	11440	50		Elbow 90 Deg Bw	ASTM A234-WPB	S80		
4	5	76.30.42.645.1	11440	100		Elbow 90 Deg Bw	ASTM A234-WPB	S40		
5	1	76.30.81.645.1	11440	100		Equal Tee Bw	ASTM A234-WPB	S40		
6	2	76.30.88.157.1	11440	100	50	Tee Reducing Bw	ASTM A234-WPB	S40 × S80		
7	4	76.62.78.314.1	11440	100		Weld Neck Rf Flange	ASTM A105	S40	150#	
8	2	76.62.78.360.1	11440	50		Weld Neck Rf Flange	ASTM A105	S80	150#	

MATERIAL FOR ERECTION										
Sr. No.	**Quantity**	**MESC Number**	**Class**	**Size 1**	**Size 2**	**Description**	**Material**	**Sch./WT**	**Rating**	**Tag No.**
9	1	76.88.37.014.1	11440	100		Spectacle Blind	ASTM A516-60/65/70		150#	
10	4	85.41.36.320.1	11440	100		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		150#	
11	1	77.00.25.012.1	11440	100		Ball Valve RB Flgd.	Body: ASTM A105/A216-WCB/WCC Trim: AISI 316, PTFE		150#	
12	16	81.38.66.273.1	11440	.625	100	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
13	8	81.38.66.274.1	11440	.625	110	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			

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Notes :

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2. PIPE Quantities are in meters & all other Items are in Numbers.

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Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Line Number : D482625

Job No. : PAIP00405

Station :

Isometric Dwg No. : NIM-3-2144-038-DQ-3

Proj. Code : DQ

Isowise MTO No. : NIM-3-2144-538-DQ-4

WBS No : NIM.IN.09.011

MTO Rev. No. : O

MATERIAL FOR FABRICATION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	65.5	74.30.03.149.1	11440	100		Pipe	ASTM A106-B	S40		
2	6	76.30.42.645.1	11440	100		Elbow 90 Deg Bw	ASTM A234-WPB	S40		
3	2	76.62.78.314.1	11440	100		Weld Neck Rf Flange	ASTM A105	S40	150#	

MATERIAL FOR ERECTION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
4	1	76.88.37.014.1	11440	100		Spectacle Blind	ASTM A516-60/65/70		150#	
5	3	85.41.36.320.1	11440	100		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		150#	
6	1	77.00.25.012.1	11440	100		Ball Valve RB Flgd.	Body: ASTM A105/A216-WCB/WCC Trim: AISI 316, PTFE		150#	
7	8	81.38.66.273.1	11440	.625	100	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
8	8	81.38.66.274.1	11440	.625	110	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			

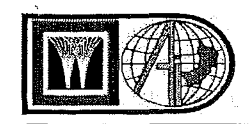
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Notes :

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2. PIPE Quantities are in meters & all other Items are in Numbers.

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Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Line Number : D482626

Job No. : PAIP00405

Station :

Isometric Dwg No. : NIM-3-2144-039-DQ-3

Proj. Code : DQ

Isowise MTO No. : NIM-3-2144-539-DQ-4

WBS No : NIM.IN.09.011

MTO Rev. No. : O

MATERIAL FOR FABRICATION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	7	74.30.03.071.1	31440X	50		Pipe	ASTM A106-B	S 80		
2	1	76.30.42.608.1	31440X	50		Elbow 90 Deg Bw	ASTM A234-WPB	S 80		
3	1	76.30.81.608.1	31440X	50		Equal Tee Bw	ASTM A234-WPB	S 80		
4	11	76.62.78.610.1	31440X	50		Weld Neck Rf Flange	ASTM A105	S 80	300#	

MATERIAL FOR ERECTION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
5	1	76.62.11.120.1	31440X	50		Blind Flange	ASTM A105		300#	
6	1	76.88.37.050.1	31440X	50		Spectacle Blind	ASTM A516-60/65/70		300#	
7	3	85.41.36.414.1	31440X	50		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
8	3	NON MESC	31440X	50		Ball Valve 14313 RB Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
9	1	NON MESC	31440X	50		Check Valve Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
10	80	81.38.66.273.1	31440X	.625	100	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
11	8	81.38.66.274.1	31440X	.625	110	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			

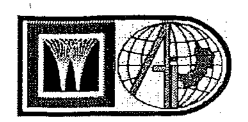
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Notes :

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Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Line Number : D482627

Job No. : PAIP00405

Station :

Isometric Dwg No. : NIM-3-2144-040-DQ-3

Proj. Code : DQ

Isowise MTO No. : NIM-3-2144-540-DQ-4

WBS No : NIM.IN.09.011

MTO Rev. No. : O

MATERIAL FOR FABRICATION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	8.5	74.30.03.071.1	31440X	50		Pipe	ASTM A106-B	S 80		
2	1	76.30.42.608.1	31440X	50		Elbow 90 Deg Bw	ASTM A234-WPB	S 80		
3	1	76.30.81.608.1	31440X	50		Equal Tee Bw	ASTM A234-WPB	S 80		
4	11	76.62.78.610.1	31440X	50		Weld Neck Rf Flange	ASTM A105	S 80	300#	

MATERIAL FOR ERECTION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
5	1	76.62.11.120.1	31440X	50		Blind Flange	ASTM A105		300#	
6	1	76.88.37.050.1	31440X	50		Spectacle Blind	ASTM A516-60/65/70		300#	
7	3	85.41.36.414.1	31440X	50		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		300#	
8	3	NON MESC	31440X	50		Ball Valve 14313 RB Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
9	1	NON MESC	31440X	50		Check Valve Flgd	Body: ASTM A182 F55 UNS N32760/A995 Grade 6A Trim: SDSS, PTFE		300#	
10	80	81.38.66.273.1	31440X	.625	100	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
11	8	81.38.66.274.1	31440X	.625	110	Stud Bolt With Nuts - SP/SB	ASTM A193-B7M/A194-2HM			

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Notes :

1. UOM of Sizes are in mm except Stud Bolts (Size 1 in inch & Size 2 in mm).

2. PIPE Quantities are in meters & all other Items are in Numbers.

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Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Job No. : PAIP00405

Station :

Proj. Code : DQ

WBS No : NIM.IN.09.011

Line Number : D482624

Isometric Dwg No. : NIM-3-2144-041-DQ-3

Isowise MTO No. : NIM-3-2144-541-DQ-4

MTO Rev. No. : O

MATERIAL FOR FABRICATION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	32	74.30.03.071.1	11440	50		Pipe	ASTM A106-B	S80		
2	1	74.30.03.109.1	11440	80		Pipe	ASTM A106-B	S80		
3	1	76.30.34.608.1	11440	50		Elbow 45 Deg Bw	ASTM A234-WPB	S80		
4	2	76.30.42.608.1	11440	50		Elbow 90 Deg Bw	ASTM A234-WPB	S80		
5	1	76.30.81.608.1	11440	50		Equal Tee Bw	ASTM A234-WPB	S80		
6	2	76.30.81.628.1	11440	80		Equal Tee Bw	ASTM A234-WPB	S80		
7	1	76.30.66.237.1	11440	80	50	Reducer Conc.Bw	ASTM A234-WPB	S80 × S80		
8	6	76.62.78.360.1	11440	50		Weld Neck Rf Flange	ASTM A105	S80	150#	
9	3	76.62.78.362.1	11440	80		Weld Neck Rf Flange	ASTM A105	S80	150#	
10	1	76.62.78.610.1	31440	50		Weld Neck Rf Flange	ASTM A105	S80	300#	

MATERIAL FOR ERECTION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
11	1	76.62.11.070.1	11440	50		Blind Flange	ASTM A105		150#	
12	1	76.62.11.072.1	11440	80		Blind Flange	ASTM A105		150#	
13	5	85.41.36.314.1	11440	50		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		150#	
14	4	85.41.36.318.1	11440	80		Gasket Spiral Wound	AISI 316, graphite filled CS centring-/SS inner ring		150#	
15	1	77.00.25.008.1	11440	50		Ball Valve RB Flgd.	Body: ASTM A105/A216-WCB/WCC Trim: AISI 316, PTFE		150#	
16	1	77.00.25.010.1	11440	80		Ball Valve RB Flgd.	Body: ASTM A105/A216-WCB/WCC Trim: AISI 316, PTFE		150#	
17	1	77.10.05.008.1	11440	50		Check Valve Flgd	Body: ASTM A105/A216-WCB/WCC Trim: AISI 316, Stellite 6		150#	
18	20	81.38.66.271.1	11440	.625	90	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			
19	16	81.38.66.273.1	11440	.625	100	Stud Bolt With Nuts - Flange	ASTM A193-B7M/A194-2HM			

Prepared by **Checked by** **Approved by**

Notes :

1. UOM of Sizes are in mm except Stud Bolts (Size 1 in inch & Size 2 in mm).

2. PIPE Quantities are in meters & all other Items are in Numbers.

APPROVED FOR CONSTRUCTION



Isowise Material Take Off

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline : Mechanical & Piping

Area : NIMR

Line Number : D482643

Job No. : PAIP00405

Station :

Isometric Dwg No. : NIM-3-2144-043-DQ-3

Proj. Code : DQ

Isowise MTO No. : NIM-3-2144-543-DQ-4

WBS No : NIM.IN.09.011

MTO Rev. No. : O

MATERIAL FOR FABRICATION

Sr. No.	Quantity	MESC Number	Class	Size 1	Size 2	Description	Material	Sch./WT	Rating	Tag No.
1	1.5	74.30.05.028.1	11412	20		Pipe	ASTM A106-B	S80		
2	2	76.30.40.574.1	11412	20		Elbow 90 Deg Bw	ASTM A234-WPB	S80		
3	1	76.29.46.192.1	11412	50	20	Reducer Conc.Bw	ASTM A234-WPB	S40 × S80		

Prepared by 

Checked by



Approved by

Notes :

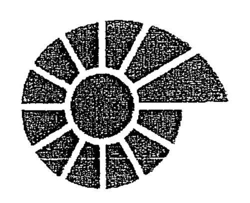
1. UOM of Sizes are in mm except Stud Bolts (Size 1 in inch & Size 2 in mm).

2. PIPE Quantities are in meters & all other Items are in Numbers.

APPROVED FOR CONSTRUCTION

Electrical Scope of Work

PAIP00405- Nimr Sludge Pit Up gradation.



PETROLEUM DEVELOPMENT OMAN

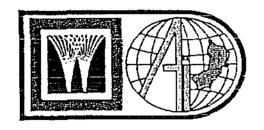
Specification for 415V Junction Boxes For Nimr Sludge pit system upgrade -FED / DD

Project No PAIP00405

WBS NO.C.OM. NIM. IN. 09.011
Contract No.: C 31/0606

AVME Code : 4.16.6
Criticality rating: 4

By



WorleyParsons – Arabian Industries (JV)

Rev. No.	Date	Description	Prepared by	Checked by	Approved by	
					WPAI	PDO
O	Sep 2010	Issued for Comment	KD	PVT	LM	OSE/29N
A	May 2011	Issued for Enquiry	KD	PVT	LM	
B	Aug'2011	Revised & Re-issued for enquiry				
				WPAI Document No.:	PAIP00405/RQ/402	

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Attachments



1. SCOPE OF SUPPLY

This specification covers the minimum requirements for the supply of 415V Junction Box for Nimr Sludge pit system upgrade -FED / DD Project of Petroleum Development Oman LLC (PDO), hereafter referred to as the Company/ Principal.

2. SPECIFICATION

Item	Description	Qty
1	Junction box Ex'e' type suitable to mount on steel structure complete with drilled gland plate, cable glands, blanking plugs and terminals as detailed below. Application : 415V Power Supply Distribution in Hazardous area, Zone-2. Explosion protection : EExe IIC T6 Ingress protection : IP 65 as per IEC 529 Housing material : Polyester resin Impact strength > 7Nm, Material self extinguishing and flame resistant Gasket : EPDM Terminals : 8 Nos. for 240mm^2 & 8 Nos. for 50mm^2 cable Earth Terminals : 1 x 25 sq.mm + 3 x 2.5 sq. Earth Continuity : Internal earth plate for metal glands Cable glands and blanking plug : Refer Attachment-1 Cable entries shall be from bottom, Refer Attachment-1 for general arrangement. The JB shall be provided with following label. 1 No. Power JB : 48-JB-001	01
2	Junction box Ex'e' type suitable to mount on steel structure complete with drilled gland plate, cable glands, blanking plugs and terminals as detailed below. Application : 415V Power Supply Distribution in Hazardous area, Zone-2. Explosion protection : EExe IIC T6 Ingress protection : IP 65 as per IEC 529 Housing material : Polyester resin Impact strength > 7Nm, Material self extinguishing and flame resistant Gasket : EPDM Terminals : 8 Nos. for 10mm^2 & 8 Nos. for 2.5 mm^2 cable Earth Terminals : 1 x 25 sq.mm + 3 x 2.5 sq. Earth Continuity : Internal earth plate for metal glands Cable glands and blanking plug : Refer Attachment-2 Cable entries shall be from bottom, Refer Attachment-2 for general arrangement. The JB shall be provided with following labels. 8 Nos. Area Lighting JB : FLP-1 To FLP-8 and 1 No. Shed Lighting JB : LTG JB-1	10



3. QUALITY REQUIREMENTS

The quality requirements for criticality rating category 4 equipments are as below.

3.1 All requirements of SP-1171 and ISO 9001:2000 shall be complied.

3.2 Any non-compliance, deficiencies or defects revealed at any stage during execution of the supply shall be rectified / corrected by the Supplier at his cost and expenses.

3.3 All material certification shall affirm compliance with relevant Company technical specifications. Manufacturer shall have a quality system certified by a competent body established within the EC, and having undergone a specific assessment for materials.

3.4 Supplier shall establish a documented procedure for source/receiving inspection and verification of material certificates of all base materials/brought out items used.

3.5 All material shall be inspected by PDO on arrival at Majan stores and any material if found non conforming to the requirements of this specification in total shall be rejected.

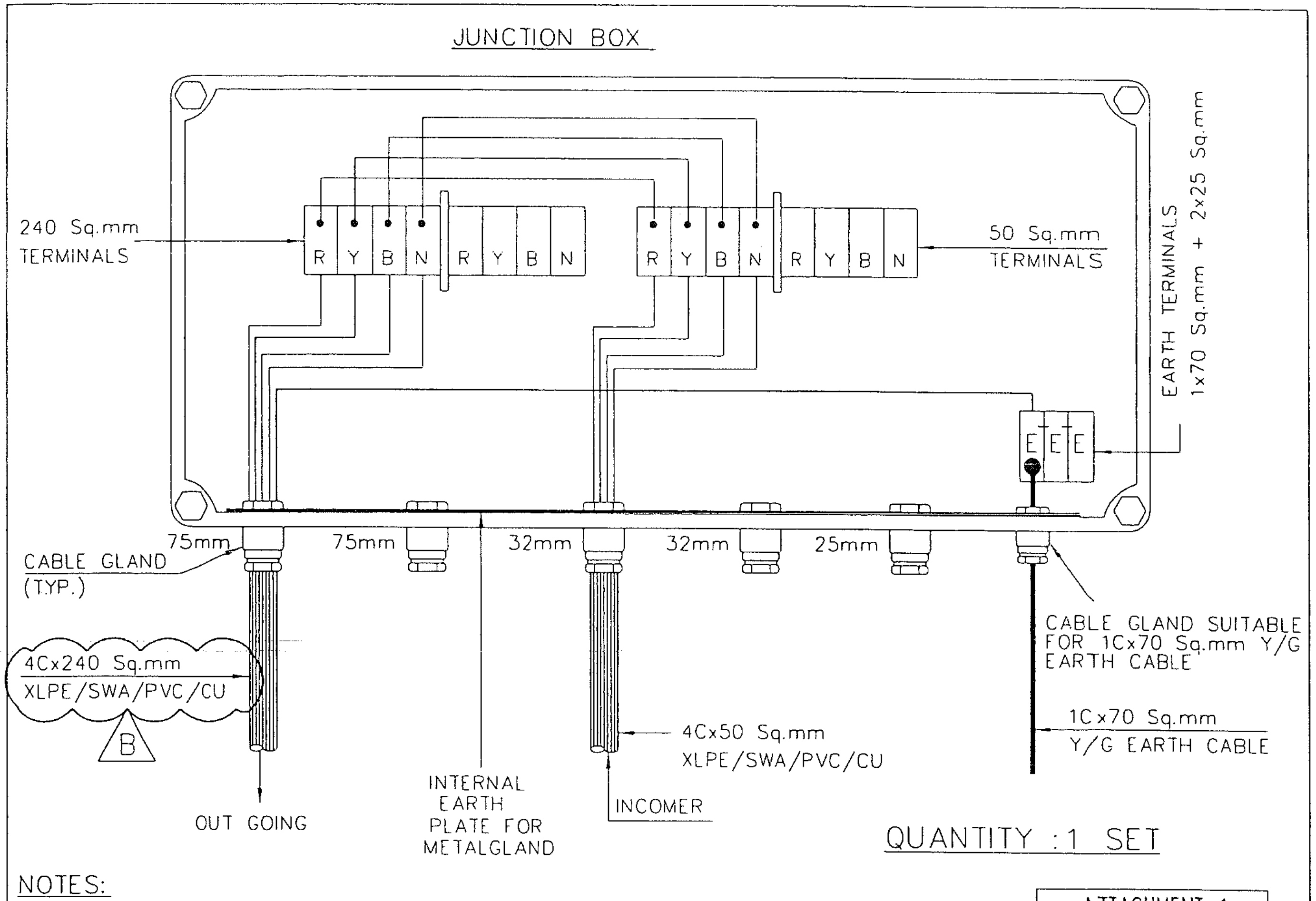


Attachment-1

Junction Box G.A Drawing (415V)



JUNCTION BOX



QUANTITY :1 SET

NOTES:

1. LINKS BETWEEN TERMINALS AND CONNECTION TO TERMINAL BLOCK SHALL BE PROVIDED BY THE VENDOR
2. TERMINAL ARRANGEMENT SHOWN IS INDICATIVE ONLY.
3. VENDOR TO PROVIDE BARRIER BETWEEN PHASE TERMINALS. PHASE TERMINALS.
4. VENDOR TO PROVIDE HAWKE 501/453 OR EQUIVALENT TYPE OF CABLE GLANDS AS SHOWN IN THE SKETCH. IN ADDITION VENDOR SHALL SUPPLY SUITABLE THREADED BLANKING PLUGS FOR 1 NOS OF 75mm, 32mm AND 25mm CABLE ENTRIES EACH.

ATTACHMENT-1
TO REQN.
PAIP00405/RQ/402

SHEET 1 OF 2

APPROVED FOR CONSTRUCTION

THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJECT WBS# C.OM.NIM.IN.09.011

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ. NO.: PAIP-00405

REV.	DATE	DRAWN BY	CHECKED BY	APPROVED BY	DESCRIPTION	WBS NO.	PROJ. ENG.	SIGNATURE
B	June '11	Kholid			REVISED & RE-ISSUED AS AFC	IN.09.011	OSE/28N	
A	MAY '11	Kholid	NMN	LM	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	SEP '10	Kholid	KD	PVT	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT AREA NO. 05

DRWG. TYPE : TYPICAL

DESCRIPTION : ELECTRICAL JUNCTION BOX 48-JB-001

SCALE : — CAD DRAWING
0 1 2 3 4 5 6 7

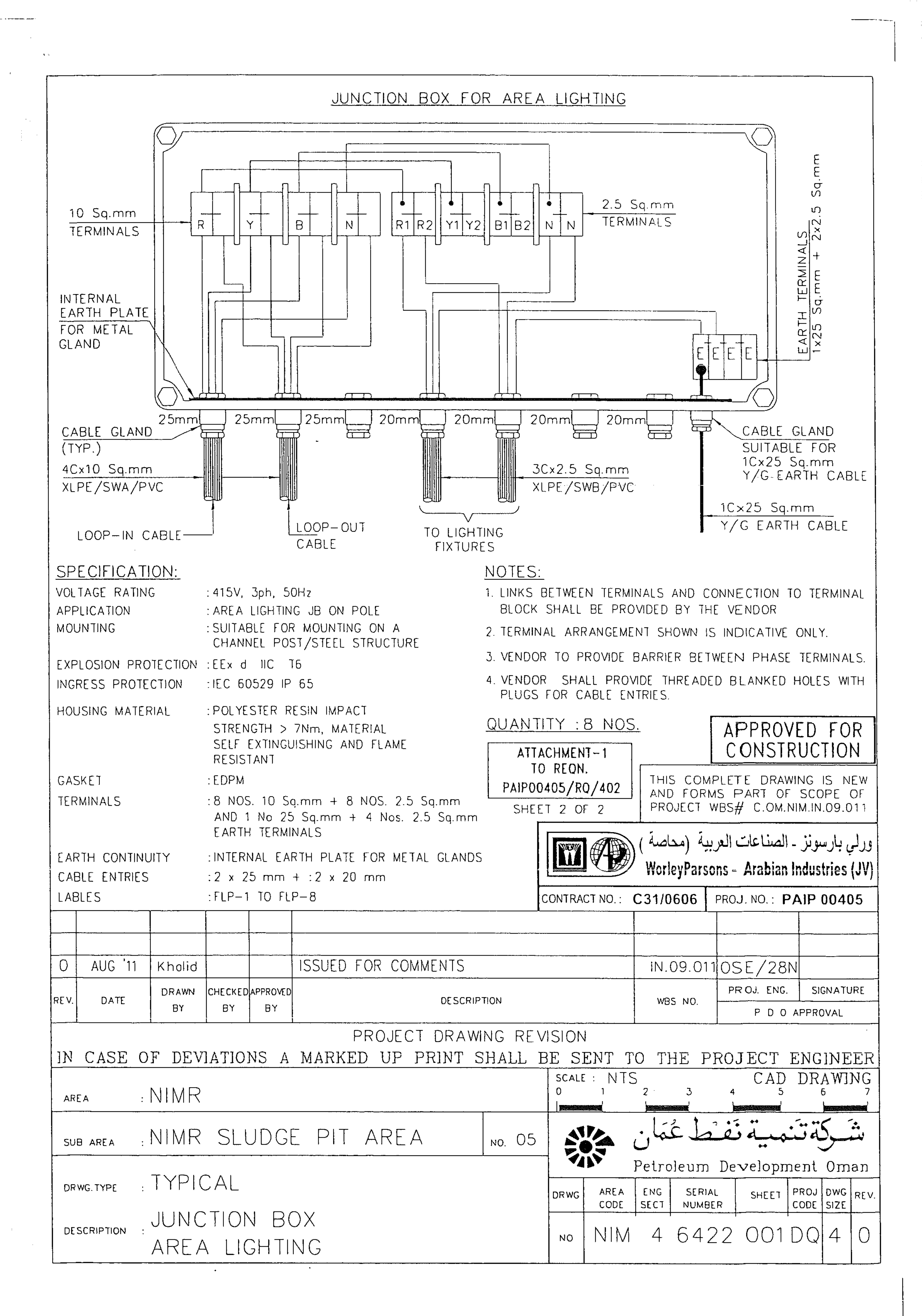
شركة تنمية نفط عمان
Petroleum Development Oman

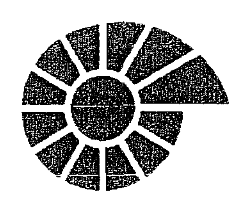
DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	4	6414	001	DQ	4	B

Attachment-2

Junction Box G.A Drawing (Lighting J.B)




JUNCTION BOX FOR AREA LIGHTING
10 Sq.mm TERMINALS
R
Y
B
N
R1 R2 Y1 Y2 B1 B2 N N
2.5 Sq.mm TERMINALS
EARTH TERMINALS 1x25 Sq.mm + 2x2.5 Sq.mm
INTERNAL EARTH PLATE FOR METAL GLAND
E E E E
25mm 25mm 25mm 20mm 20mm 20mm 20mm
CABLE GLAND (TYP.)
CABLE GLAND SUITABLE FOR 1Cx25 Sq.mm Y/G-EARTH CABLE
4Cx10 Sq.mm XLPE/SWA/PVC
3Cx2.5 Sq.mm XLPE/SWB/PVC
1Cx25 Sq.mm Y/G EARTH CABLE
LOOP-IN CABLE
LOOP-OUT CABLE
TO LIGHTING FIXTURES
SPECIFICATION:
VOLTAGE RATING : 415V, 3ph, 50Hz
APPLICATION : AREA LIGHTING JB ON POLE
MOUNTING : SUITABLE FOR MOUNTING ON A CHANNEL POST/STEEL STRUCTURE
EXPLOSION PROTECTION : EEx d IIC T6
INGRESS PROTECTION : IEC 60529 IP 65
HOUSING MATERIAL : POLYESTER RESIN IMPACT STRENGTH > 7Nm, MATERIAL SELF EXTINGUISHING AND FLAME RESISTANT
GASKET : EDPM
TERMINALS : 8 NOS. 10 Sq.mm + 8 NOS. 2.5 Sq.mm AND 1 No 25 Sq.mm + 4 Nos. 2.5 Sq.mm EARTH TERMINALS
EARTH CONTINUITY : INTERNAL EARTH PLATE FOR METAL GLANDS
CABLE ENTRIES : 2 x 25 mm + : 2 x 20 mm
LABLES : FLP-1 TO FLP-8
NOTES:
1. LINKS BETWEEN TERMINALS AND CONNECTION TO TERMINAL BLOCK SHALL BE PROVIDED BY THE VENDOR
2. TERMINAL ARRANGEMENT SHOWN IS INDICATIVE ONLY.
3. VENDOR TO PROVIDE BARRIER BETWEEN PHASE TERMINALS.
4. VENDOR SHALL PROVIDE THREADED BLANKED HOLES WITH PLUGS FOR CABLE ENTRIES.
QUANTITY : 8 NOS.
ATTACHMENT-1 TO REQN. PAIP00405/RQ/402
SHEET 2 OF 2
APPROVED FOR CONSTRUCTION
THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJECT WBS# C.OM.NIM.IN.09.011
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP 00405
0 | AUG '11 | Kholid | ISSUED FOR COMMENTS | IN.09.011 | OSE/28N
REV. | DATE | DRAWN BY | CHECKED BY | APPROVED BY | DESCRIPTION | WBS NO. | PROJ. ENG. | SIGNATURE
P D O APPROVAL
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
AREA : NIMR
SCALE : NTS
CAD DRAWING
0 1 2 3 4 5 6 7
SUB AREA : NIMR SLUDGE PIT AREA
NO. 05
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG. TYPE : TYPICAL
DESCRIPTION : JUNCTION BOX AREA LIGHTING
DRWG NO | AREA CODE | ENG SECT | SERIAL NUMBER | SHEET | PROJ CODE | DWG SIZE | REV.
NIM | 4 | 6422 | 001 | DQ | 4 | 0



PETROLEUM DEVELOPMENT OMAN

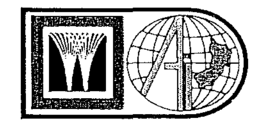
Specification of Outdoor Distribution Board For Nimr Sludge pit system upgrade -FED / DD

Project No PAIP00405

WBS NO.C.OM. NIM. IN. 09.011
Contract No.: C 31/0606

AVME Code: 4.10.2
Criticality rating : 3

By



WorleyParsons – Arabian Industries (JV)

Rev. No.	Date	Description	Prepared by	Checked by	Approved by	
					WPAI	PDO
O	Sep 2010	Issued for Comment	KD	PVT	LM	OSE/29M
A	May 2011	Issued for Enquiry	Nasser	PVT	LM	
B	Aug'2011	Revised & Re-issued for enquiry	[signature]	[signature]	[signature]	[signature]
					WPAI Document No.:	PAIP00405/RQ/401

P. O. Box-795, Postal Code-133, Al-Khuwair, Sultanate of Oman. Tel: +968-24473300 Fax: +968-24473400

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1. INTRODUCTION

This specification covers the minimum requirements for the design, manufacture, assembly, inspection, testing, supply, packing and delivery of Outdoor Distribution board for Nimr Sludge pit system upgrade -FED / DD Project of Petroleum Development Oman LLC (PDO), hereafter referred to as the Company/ Principal.

2. SCOPE OF SUPPLY

The Vendor's scope of work includes supply of the following Distribution board as per the Specifications detailed/referred in this requisition.

Item No	Description	Rating	Qty	Remarks
1	Outdoor Distribution Board	415V, 125A,3Ph +N 50Hz, 10 kA for 1sec	1 Nos	Refer Single line diagram (attachment 6)

3. SPECIFICATION

3.1. General Requirements

3.1.1 All equipment, materials and systems shall be designed, manufactured, tested, supplied in accordance with the specification and attached data sheets. As a minimum, equipment and the system supplied by the Vendor shall satisfy the requirements of this specification and also shall meet the working and operating condition requirements listed in other sections of this document such as data sheets / DEP / SP.

3.1.2 It shall be the responsibility of the vendor to provide work/materials in accordance with the best modern practice and nothing written or implied in this specification shall relieve the vendor of his responsibility for the quality and soundness of the finished work, which must be adequate for the duty intended.

3.1.3 The Vendor shall be in possession of the latest Shell DEPs and PDO Specification (SP). Non-availability of these documents will not be accepted as an excuse for non-compliance. The order of precedence shall be as follows:

- Decrees and Laws of the Sultanate of Oman
- This Technical specification/Contract/Enquiry Document.
- Specifications (SP)
- SIPM Design and Engineering Practices (DEP's)
- International Codes and Standards

3.1.4 Unless alternative standards are specifically mentioned in the Specifications, all materials and equipment used and provided for the Work shall be in accordance with SP and DEP recommendations. Where no such recommendation exists, then materials shall be in accordance with IEC or ISO or such other standards, as in the opinion of the Company ensures an equivalent

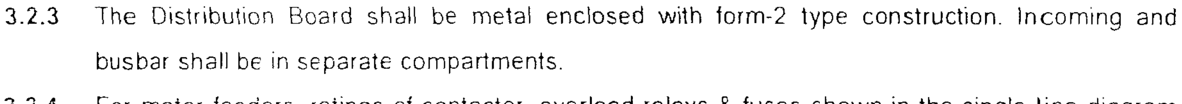


or higher quality. The standards used shall be the latest published at the time of tender / bid / offer submission.

3.2. Technical requirements

3.2.1 The incoming and out going feeder details for Distribution Board shall be as per the Single line diagram attached as attachment-6.

3.2.2 The Distribution Board shall be designed for outdoor installation conditions as indicated in Attachment – 3 and shall be suitable for outdoor structural mounting type. B



3.2.3 The Distribution Board shall be metal enclosed with form-2 type construction. Incoming and busbar shall be in separate compartments.

3.2.4 For motor feeders, ratings of contactor, overload relays & fuses shown in the single line diagram are tentative. Vendor shall select the components to conform to type-2 co-ordination as specified in IEC 947-4-1. The non-latchable contactor feeders for motors shall have restart facility with settable time delay. The internal wiring of the motor feeders shall be as per PDO standards.

3.2.5 Cable entries for all shall be from bottom. The Distribution Board shall be provided with cable glands of HAWKE or equivalent type for fixing cables. The lowest cable termination point shall not be less than 200mm from the gland. Gland plate shall be Non-magnetic.

3.2.6 Labelling on the Distribution Board shall conform to the following:

- Main name plate as referred to in DEP 33.67.01.31 Gen. clause 5.1.1
- Circuit labels as referred to in DEP 33.67.01.31 Gen. clause 5.1.2 (a) & (b).
- Distribution Board identification label.

3.2.7 Painting and coating shall be to RAL 7036 in accordance with SP-1246 Part-1 to 5.

3.2.8 The distribution board shall be provided with IP55 protection.

3.3 Drawing/Documents required along with offer

3.3.1 The following drawings/documents shall be submitted for approval before manufacturing:

- Filled in requisition data sheets attached under (Attachment-1)
- Filled in Table of Compliance attached under (Attachment-2)
- General arrangement drawing with dimensions for the Power DB.
- Single line diagrams
- List of commissioning spares with quantity
- List of any special tools or accessories required for installation
- Schedule for design, manufacture and supply
- Type test certificate for similar Power DB.

3.3.2 All drawings and documents shall be submitted as per the RED (Refer attachment-5) form enclosed with the requisition. Final certified drawings and transparencies (or floppies) shall be submitted after agreement and incorporation of all comments made by the principal / consultant.

3.3.3 Offer shall include commissioning spares. Similarly the list of spare parts required for two years of operation shall be offered as a separate item in the quotation. Manufacturer to complete and



submit the E-SPIR form. SPIR form. SPIR forms shall be collected by the successful bidder from PDO as described in DEP 70.10.90.11-Gen. Spare parts Manual, Clause 1.3.2.

3.3.4 The equipment shall be suitably packed for transportation & submit the packing details for purchaser approval.

4. APPLICABLE STANDARDS

The applicable PDO Documents, Codes and Standards are listed below:

DEPs/SPs	DESCRIPTION
SP-1103	Electrical Engineering Guide lines (Amendment to DEP 33.64.10.10-Gen).
SP-1121	Specification for LV Switchgear and Control Assemblies.
SP-1100	Specification for Testing and Commissioning of Electrical Equipments.
SP-2047	Preparation and Content of Engineering Drawings.
SP-1285-E	Specification for Civil and Building Utility Services.
SP-1107	Electrical Protection System
SP-1105	Electrical Standard Drawing
SP-1171	Specification for Quality Assurance of Design, Construction and Engineering Works
SP 1246	Engineering standard specification for painting and coating systems for oil & gas facilities
PR 1443	Spare Parts and Interchangeability Record
SP-1099	Electrical Installation Practice
DEP 33.64.10.10-GEN	Electrical Engineering Design
DEP 33.67.01.31	Low voltage switchgear and controlgear assemblies

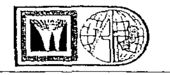
5. QUALITY REQUIREMENTS

The quality requirements for criticality rating, category 3 equipments are as below.

5.1. All requirements of SP-1171 and ISO 9001:2000 shall be complied in all phases of the Service.

5.2. Any non-compliance, deficiencies or defects revealed at any stage during execution of the supply shall be rectified / corrected by the Supplier at his cost and expenses.

5.3. All material certification shall affirm compliance with relevant Company technical specifications. Manufacturer shall have a quality system certified by a competent body established within the EC, and having undergone a specific assessment for materials.



5.4. Supplier shall establish a documented procedure for source/receiving inspection and verification of material certificates of all base materials/brought out items used.

5.5. The Vendor shall submit quality control plan in accordance with SP-1171 for approval of purchaser's QA Manager/Inspector. The quality control plan shall cover all phases of design, manufacture, installation & testing including list of all applicable standards, planned data for each test, evidence of compliance with ISO 9001, Identify Hold, Witness, Review, Monitor, and Surveillance points for confirmation to purchaser.

5.6. The vendor shall seek prior approval of Sub-Supplier list from WPAI /PDO, if outside the PGSC List.

5.7. All necessary facilities shall be extended by vendor to the purchaser for witnessing the functional or final tests as per clause number 6 below.

5.8. The Equipment /Material shall be certified by the third party inspection agency (TPI) arranged by PDO. TPI shall issue certificate as required by SP-1171.

5.9. Vendor shall furnish inspection reports as per RED form attached with the requisition.

6. TESTING AND INSPECTION

6.1. Type test certificates for similar equipment shall be provided with the offer.

6.2. The Distribution Board shall be tested at Manufacture's works for routine test as per cl. 8.00 of DEP 33.67.01.31-GEN (only applicable clauses). The Vendor shall submit Works Inspection Test Procedure for all the inspection & tests to be conducted at Manufacturer's work. All test reports shall be submitted for company's approval before dispatch the DB.

6.3. Equipment shall be dispatched from the manufacturer's factories only after the factory tests, approval of packing/transport details & dispatch clearance granted by the Purchasers.

7. SPECIAL TOOLS

The Vendor shall recommend and include special tools which may be required for the installation, operation & maintenance of the equipment being supplied. A list of special tools & tackles shall be supplied with the offer.

8. WARRANTY

Warranty for equipment shall be in accordance with applicable, relevant DEP/ SP

9. PACKING, TRANSPORT & SHIPMENT

Packing, transport & shipment shall be in accordance with DEP 33.67.51.31 & SP-1120 and packing / forwarding details to be approved by purchaser prior to dispatch

10. DELIVERY, INSURANCE & PAYMENT TERMS



Delivery, insurance & payment terms shall be in accordance with the commercial part of the requisition/ purchase order.



ATTACHMENT – 1
TECHNICAL REQUIREMENTS



Requisition sheet for DISTRIBUTION BOARD	Contr. Job No PAIP00405
	MESC No.

No.				
1	**REQUIREMENTS AND CONDITIONS**			
2	General			
3	Specific requirements	: DEP 33.67.01.31-Gen, SP-1121,SP-1107		
4	Schedule	: ~~1~~ REFER SLD UNDER ATTACHMENT 6		~~(Form Dep 33.67.01.81-Gen)~~
5	Power system type	: TN-S/ 415V, 3Ph+N, 4 wire		
6	Rated current of busbar system	: 125A		
7	Rated short time withstand current	: 10kA for 1 Sec.		
8	Service conditions	: ~~temperate~~/tropical/~~indoors/~~outdoors		
9	Special service conditions	: NIL		
10	Type of enclosure	: metal ~~/ insulating material~~, multi-box ~~/ multi-cubicle~~		
11	Type of mounting	: structural~~/ floor / wall~~		
12	Framework required	: yes ~~/ no~~	Cable entries	: incoming: below~~/above~~
13	Type of fuses	: ~~DIN/BS/~~HRC		: outgoing: below~~/above~~
14	Inspection required	: ~~yes~~ / no	Cable gland plate	: ~~drilled~~/undrilled
15	Language on documents	: English/	Glands required	: yes~~/ no~~
16	on equipment	: English/	Glands type	: weather proof double compression
17				
18				
19				
20	**INFORMATION TO BE SUBMITTED BY MANUFACTURER WITH THE QUOTATION**			
21	**Make and type**	:		
22	Short-circuit strength	: Thermal:	kA rms, 1s; dynamic:	kA crest :
23	Type of enclosure	:		
24	Type of mounting	:		
25	Degree of protection	: IP - 55		
26	Rain canopy	: ~~yes~~ / no		
27	Total mass of equipment	:	kg	
28	Specified tender document attached	: yes / no		
29	Any deviations from specification	: no		
30	(if yes, list deviations)	:		
31				
32				
33				
34				
35				
41				
42				
43				
44				
45				

No.	SPECIAL REQUIREMENTS AND REMARKS	REMARKS ON REVISIONS
47	1. Panel shall be constructed in form-2 configuration.	0 - ISSUED FOR COMMENTS
48		A - ISSUED FOR ENQUIRY
49	2. Live parts inside the cubicle shall have min. degree of protection	
50	of IP-20 when the door is open.	
51		
52		
53		
54		
55		
56		
57		

Made by	KD	EQUIPMENT: OUTDOOR DISTRIBUTION BOARD	Rev letter	0	A	
Checked by	PVT	PLANT : NIMR SLUDGE PIT AREA	Date	SEP'10	MAY'11	
Appr. by 11-08-11	LM	CONSIGNEE: PETROLEUM DEVELOPMENT OMAN LLC	Signature	KD		
			Sheet No. 1 cont'd on sheet -.			
Eng. by : **WorleyParsons Oman Engineering L.L.C.**			Equipment No.			
Principal : **PETROLEUM DEVELOPMENT OMAN LLC**			Req. No. PAIP00405RO/401			

ATTACHMENT – 2
TABLE OF COMPLIANCE



TABLE OF COMPLIANCE

The Vendor shall confirm below that he has accepted all the clauses contained in the specification or otherwise made clarifications or exceptions as furnished below:

Spec. Ref Paragraph	Conform Y/N	Alternatives Y/N	Noted Y/N	Clarification
1				
2				
3.1.1				
3.1.2				
3.1.3				
3.1.4				
3.2.1				
3.2.2				
3.2.3				
3.2.4				
3.2.5				
3.2.6				
3.2.7				
3.2.8				
3.3.1				
3.3.2				
3.3.3				
3.3.4				
4				
5.1				
5.2				
5.3				
5.4				
5.5				
5.6				
5.7				
5.8				
5.9				

Spec. Ref Paragraph	Conform Y/N	Alternatives Y/N	Noted Y/N	Clarification
6.1				
6.2				
6.3				
7				
8				
9				
10				
ATTACHMENT-1				
ATTACHMENT-3				
ATTACHMENT-4				
ATTACHMENT-5				
ATTACHMENT-6				
ATTACHMENT-7				
ATTACHMENT-8				
ATTACHMENT-9				

ATTACHMENT – 3
SITE CLIMATIC & INDOOR CONDITIONS



SITE CLIMATIC AND INDOOR CONDITIONS
(EXTRACT FROM SP-1103)

1. SITE CLIMATIC CONDITIONS

Maximum black bulb temperature	:	82 °C
Peak shade temperature, two hours	:	60 °C
Continuous ambient temperature		55 °C
Minimum average ambient temperature	:	5 °C
Maximum daily variation in temperature	:	25 °C
Maximum relative humidity	:	98%
Maximum ground temperature at various below-grade-levels		
	:	35 °C @ 800 mm
	:	38 °C @ 650 mm
	:	40 °C @ 500 mm
Minimum ground temperature	:	20 °C @ 1000 mm below grade
Soil Thermal Resistivity	:	240 °C cm/W
Maximum infrequent heavy rainfall	:	25 mm/hour
No earthquakes		
Elevation not greater than	:	120 m A.S.L.
Maximum Isokeraunic level	:	10 days per annum
Maximum 3 second gust wind speed	:	122 km/hour
Solar radiation	:	120 mW/cm^2

Local conditions are characterised by frequent sand storms when the atmosphere becomes heavily laden with dust particles. Rain is infrequent but is often combined with hail and sand storms. At certain times of the year early morning dew occurs.

Equipment installed outdoors shall be designed for operation in the environment stated above. For continuous temperature rating of such equipment, reference shall be made to the various equipment DEPs and SPs.

2. INDOOR CONDITIONS

Indoor conditions exist inside control rooms, switch rooms, substations, battery rooms etc. and such rooms are considered to be air-conditioned (redundant system). Inside temperature is maximum 25°C with all units operating and 35 °C with one unit out of service.Equipment nstalled in such rooms shall be specified for a continuous operating temperature of 40 °C, and at 50 °C for two hours in one day.



ATTACHMENT – 4
SYSTEM VOLTAGE AND FREQUENCY



(A) SYSTEM VOLTAGE AND FREQUENCY

(Extract from SP-1103)

1. STANDARD VOLTAGES, FREQUENCY AND NEUTRAL EARTHING

a)	Frequency	:	50 Hz		
b)	High voltage	:	132 kV	3 phase	solidly earthed
c)	High voltage	:	33 kV	3 phase	solidly earthed
d)	High voltage	:	11 kV	3 phase	resistance earthed (see note 1, 2, 3)
e)	High voltage	:	6.6 kV	3 phase	resistance earthed (see note 1, 2)
f)	Low voltage	:	415/240 V	3 phase & neutral	solidly earthed

Notes: 1. For distribution systems, the earth fault current shall be limited to approximately the nominal current of the supply equipment.
2. For generators and motor unit transformers, the earth fault current shall be limited to 5A
3. The use of 11 kV should be limited to ring circuits for camps.

2. SUPPLY VARIATIONS

a) Steady state:

Voltage : ± 10% at a voltage of 132 kV and ± 5% at voltages below 132 kV

Frequency : ± 2%

b) Dynamic:

Voltage : ± 15% at common buses.

3. EQUIPMENT OPERATING VOLTAGES

Equipment shall be suitable for operation at the following voltages:

a)	Motors above 2200 kW	:	By unit transformer from 33 kV or 132 kV
b)	Motors 185 kW-2200 kW	:	6.6 kV (see note 1 below)
c)	Motors up to 160 kW	:	415 V
d)	Lighting supply	:	415/240 V; 3 phase & neutral
e)	Lighting systems	:	240 V; phase & neutral
f)	Instruments (non-vital)	:	240 V; phase & neutral
g)	Instruments (vital)	:	240 V; phase & neutral (see note 2)
h)	Instruments (vital)	:	24 V DC floating
i)	Welding outlets	:	415 V; 3 phase & neutral
j)	Convenience outlets	:	240 V; phase & neutral
k)	Switchgear closing	:	110 V DC floating
l)	Switchgear tripping	:	110V DC floating
m)	Electrical SCADA system	:	48 V DC positive earth

Notes: 1. Preferred voltage for HV motors is 6.6 Kv
2. Supply from Uninterruptible Power Supply System (UPS).



ATTACHMENT – 5
REQUISITION FOR VENDOR ENGINEERING DOCUMENTS



REQUISITION FOR ENGINEERING DOCUMENTS — "RED" form

The following addresses shall be inserted by Seller in the relevant space on the "Approval Drawing Specification" (ADS) from DEP 05.00.54.81-Gen. or the "Final Drawing Specification" (FDS) form DEP 05.00.54.82-Gen

Purchasing (Procurement) Office	Principal	Distribution Office (Note2)
	Petrolium Development Oman LLC Attn : P.O.B. 81,Postal Code 113 Muscat Sultanate Of Oman	

SPECIAL INSTRUCTIONS	Prints	Documents shall be submitted to
Production Schedule	3	Nominated inspector before pre-manufacturing meeting
Manufacturing, inspection and testing sequence plan	3	Within 2 weeks from the order date.

DRAWINGS	Required number for				TIMING FOR SUBMITTAL
	Approval		Final issue		For Approval:Within 2 weeks of order placement
Approval drawings/Final drawings to be submitted under cover of an ADS form/ FDS form respectively	Transpa-rencies	Prints	Originals (Note 1)	Prints	For Final Document Submission:Within 2 weeks of the approval / order placement. Documents shall be submitted to Distribution Office (WPAI) by Vendor / Sub-contractor
Drawing and Document List		3	1	3	
Quality Control Plan / Inspection and Test Plan		3	1	3	Refer Note 4 below
Single Line Diagrams		3	1	3	Refer Note 5 below
Schematics Drawings		3	1	3	
Bill of Materials		3	1	3	
E[illegible]ent Data sheets		3	1	3	
General Arrangement Drawings		3	1	3	
Installation Details		3	1	3	

SPARE PARTS DOCUMENTS	Prints	Documents shall be submitted to
E-SPIR plus 1 printed copy as per PR-1443.	3	Distribution Office (WPAI) by Vendor / Sub-contractor Within 6 weeks of order placement

TEST AND INSPECTION DOCUMENTS	Prints	Documents shall be submitted to
Approval/Final documents to be submitted under cover of an ADS/FDS form respectively		Distribution Office (WPAI) by Vendor / Sub-contractor Within 4 weeks of test of before final release whichever is sooner.
Manufacturing report to: DEP 31.22.10.35-Gen.	3	Note 4: Turn around time at WPAI for each submission of documents is 15 days or 10 working days whichever is higher
Abridged manufacturing report to: DEP 31.22.10.35-Gen.	3	Note 5: ITPs and/or any other documents requiring PDO approval as per SP-1122 or any other SPs, additional 5 working days or 1 week whichever is higher to be added to turnaround time mentioned in note 4 above.
Material certificates to ISO 10474: Type 3.1.B & CE marking or equivalent	3	

OPERATING DOCUMENTS		Documents shall be submitted to
Installation instructions	3	Distribution Office (WPAI) by Vendor / Sub-contractor
Operating instructions	3	
Maintenance instructions	3	

ADDITIONAL REQUIREMENTS

Note 1: If the document is available in electronic form, a diskette containing the electronic file shall also be submitted.

Note 2: The submitted document to be collected byvendor or by subcontractor from WPAI office as required.

Note 3: In the absense of ADS or FDS form, vendor may submit the drawigns with attached Vendor Document Transmittal Form

REMARKS

Invoice must certify that the drawings and engineering documents specified above have been despatched to all parties concerned.
Any deviation from the timing for submittal of documents shall be notified to the Approval/Distribution Offices by E-mail or fax.
Shop fabrication shall not be started before the required approval drawings have been released for construction by the party concerned, unless otherwise stated on the "Approval Drawing Specification".
Each document shall bear the item/tag and order reference number, and shall

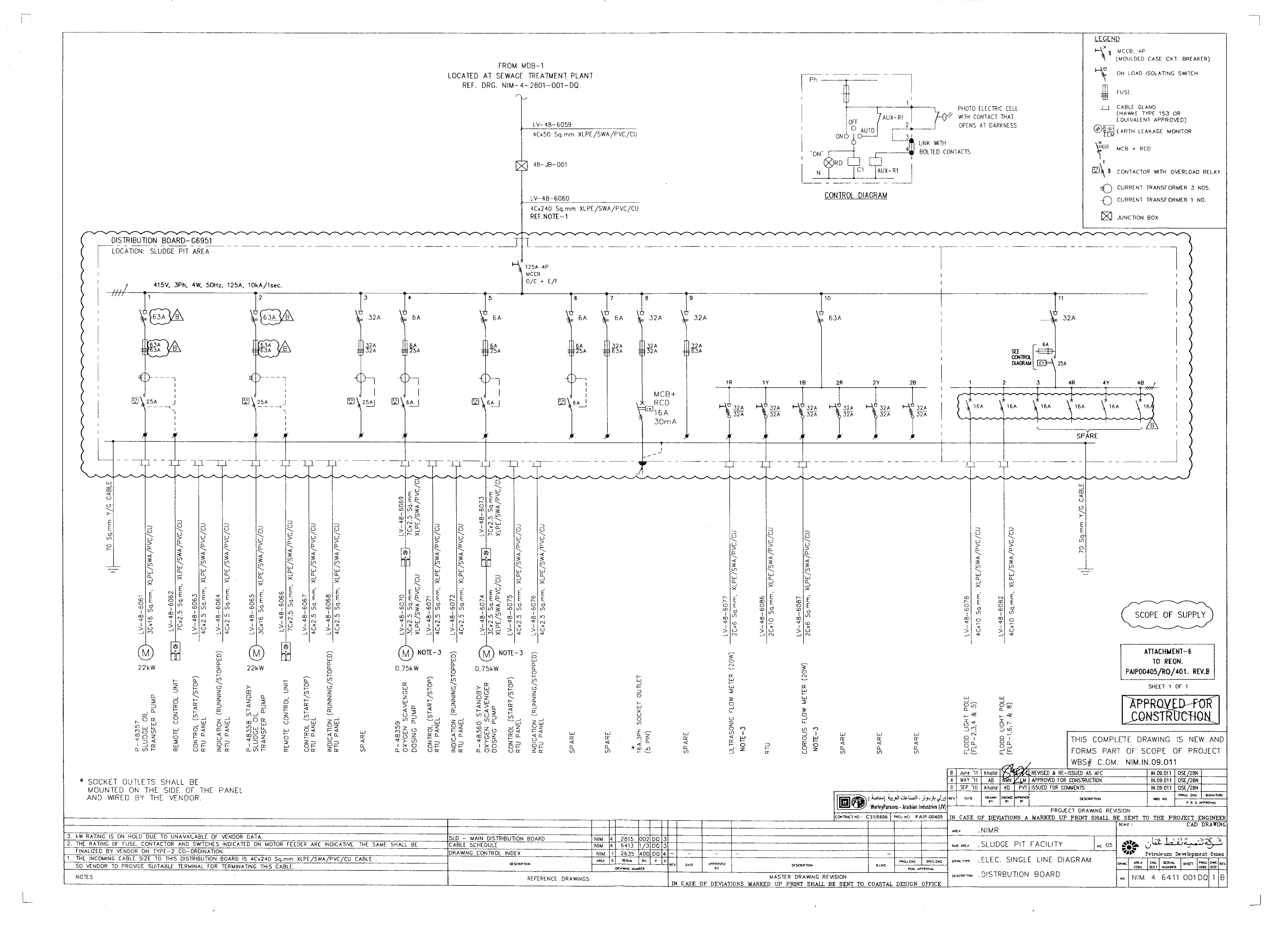
be despatched by air mail unless specified otherwise.

Units/dimensions used on Engineering documents shall be SI. Exceptions to SI units are standardized imperial units for nominal sizes of pipe, valves flanges, bolting, etc.
The documents shall be in English. Description on drawings and similar documents may be in other languages provided English translations are also given
Drawings and documents shall be suiteable for microfilming and comply with accepted national or international standards for the preparation of technical drawings. Only the following standard sizes should be used: A4, A3, A2 A1

Attachment to Document: PAIP00405/RQ/401

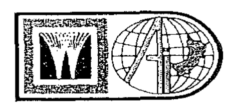
ATTACHMENT –6
SINGLE LINE DIAGRAM




FROM MDB-1
LOCATED AT SEWAGE TREATMENT PLANT
REF. DRG. NIM-4-2801-001-DQ
LV-48-6059
4Cx50 Sq.mm XLPE/SWA/PVC/CU
48-JB-001
LV-48-6060
4Cx240 Sq.mm XLPE/SWA/PVC/CU
REF.NOTE-1
DISTRIBUTION BOARD-G6951
LOCATION: SLUDGE PIT AREA
125A 4P
MCCB
O/C + E/F
415V, 3Ph, 4W, 50Hz, 125A, 10kA/1sec.
CONTROL DIAGRAM
Ph
OFF
ON
AUTO
AUX-R1
"ON"
RD
C1
N
PHOTO ELECTRIC CELL
WITH CONTACT THAT
OPENS AT DARKNESS
LINK WITH
BOLTED CONTACTS
LEGEND
MCCB, 4P (MOULDED CASE CKT. BREAKER)
ON LOAD ISOLATING SWITCH
FUSE
CABLE GLAND (HAWKE TYPE 153 OR EQUIVALENT APPROVED)
EARTH LEAKAGE MONITOR
MCB + RCD
CONTACTOR WITH OVERLOAD RELAY
CURRENT TRANSFORMER 3 NOS.
CURRENT TRANSFORMER 1 NO.
JUNCTION BOX
MCB+
RCD
16A
30mA
SEE CONTROL DIAGRAM
SPARE
70 Sq.mm Y/G CABLE
LV-48-6061 3Cx16 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6062 7Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6063 4Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6064 4Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6065 3Cx16 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6066 7Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6067 4Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6068 4Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6069 7Cx2.5 Sq.mm XLPE/SWA/PVC/CU
LV-48-6070 3Cx2.5 Sq.mm XLPE/SWA/PVC/CU
LV-48-6071 4Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6072 4Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6073 7Cx2.5 Sq.mm XLPE/SWA/PVC/CU
LV-48-6074 3Cx2.5 Sq.mm XLPE/SWA/PVC/CU
LV-48-6075 4Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6076 4Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6077 2Cx6 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6086 2Cx10 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6087 2Cx6 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6078 4Cx10 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6082 4Cx10 Sq.mm, XLPE/SWA/PVC/CU
22kW
P-48357 SLUDGE OIL TRANSFER PUMP
REMOTE CONTROL UNIT
CONTROL (START/STOP) RTU PANEL
INDICATION (RUNNING/STOPPED) RTU PANEL
22kW
P-48358 STANDBY SLUDGE OIL TRANSFER PUMP
REMOTE CONTROL UNIT
CONTROL (START/STOP) RTU PANEL
INDICATION (RUNNING/STOPPED) RTU PANEL
SPARE
NOTE-3
0.75kW
P-48359 OXYGEN SCAVENGER DOSING PUMP
CONTROL (START/STOP) RTU PANEL
INDICATION (RUNNING/STOPPED) RTU PANEL
NOTE-3
0.75kW
P-48360 STANDBY OXYGEN SCAVENGER DOSING PUMP
CONTROL (START/STOP) RTU PANEL
INDICATION (RUNNING/STOPPED) RTU PANEL
SPARE
SPARE
* 16A,3Ph SOCKET OUTLET (5 PIN)
SPARE
ULTRASONIC FLOW METER (20W) NOTE-3
RTU
CORIOLIS FLOW METER (20W) NOTE-3
SPARE
SPARE
SPARE
FLOOD LIGHT POLE (FLP-2,3,4 & 5)
FLOOD LIGHT POLE (FLP-1,6,7 & 8)
SCOPE OF SUPPLY
ATTACHMENT-6
TO REQN.
PAIP00405/RQ/401. REV.B
SHEET 1 OF 1
APPROVED FOR CONSTRUCTION
THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJECT WBS# C.OM. NIM.IN.09.011
* SOCKET OUTLETS SHALL BE MOUNTED ON THE SIDE OF THE PANEL AND WIRED BY THE VENDOR.
B | June '11 | Khalid | REVISED & RE-ISSUED AS AFC | IN.09.011 | OSE/28N
A | MAY '11 | AB | NMN | LM | APPROVED FOR CONSTRUCTION | IN.09.011 | OSE/28N
0 | SEP '10 | Khalid | KD | PVT | ISSUED FOR COMMENTS | IN.09.011 | OSE/28N
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ NO. PAIP-00405
3. kW RATING IS ON HOLD DUE TO UNAVAILABLE OF VENDOR DATA.
2. THE RATING OF FUSE, CONTACTOR AND SWITCHES INDICATED ON MOTOR FEEDER ARE INDICATIVE. THE SAME SHALL BE FINALIZED BY VENDOR ON TYPE-2 CO-ORDINATION.
1. THE INCOMING CABLE SIZE TO THIS DISTRIBUTION BOARD IS 4Cx240 Sq.mm XLPE/SWA/PVC/CU CABLE, SO VENDOR TO PROVIDE SUITABLE TERMINAL FOR TERMINATING THIS CABLE.
NOTES
SLD - MAIN DISTRIBUTION BOARD | NIM | 4 | 2815 | 002 | DQ | 3
CABLE SCHEDULE | NIM | 4 | 6413 | 1/3 | DQ | 3
DRAWING CONTROL INDEX | NIM | 1 | 2635 | 400 | DQ | 4
REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
CAD DRAWING
AREA : NIMR
SUB AREA : SLUDGE PIT FACILITY
DRWG TYPE : ELEC. SINGLE LINE DIAGRAM
DESCRIPTION : DISTRBUTION BOARD
Petroleum Development Oman
NIM 4 6411 001 DQ 1 B

ATTACHMENT – 7
VENDOR TRANSMITTAL FORMAT







Vendor Document Transmittal Form

1. Date of Despatch	2. Date of Receipt	3. Date of Distribution	5. PART	6.COMPLETE

7. WPAI Purchase Order Number	8. Vendor Work Order Reference	8a Vendor Transmittal Number

9. Name of the equipment

10. Vendor Name / Address	11. Distribution (Approval Office) Office Name / Address
Contact Person: **Telephone Number:** **Fax Number:** **GSM Number:** **Email ID:**	**WorleyParsons Arabian Industries JV** PB 795, PC, 133, Al-Khuwair, Sultanate of Oman Attn: Document Controller **Project Number PAIP00405**
12. Purchasing Office Name / Address Refer Purchase Order	13. Principal / Company Name / address Petroleum Development Oman PB81, PC 100, Muscat, Sultanate of Oman

14. Item #	15 Supplier Doc / Dwg Number	16. Dwg Rev #	17. Doc / Drawing Description or Title	18 Only as per RED Electronic	19 Only as per RED Print	20 Approval Office Drawing	21 Rev #	22 Code* Purpose of submission

24. Additional Remarks by Supplier: Warning: Approval of drawings in no way absolves Vendor from responsibilities and obligation for their accuracy or for the design, construction and performance of the equipment / service. Refer document turnaround time mentioned in the RED form.

Name, Signature and date by Supplier Representative

25. Remarks by Distribution (Approval) office: The requirements for final drawings and the address to which they should be dispatched are given in RED form.

Name, Signature and date by Distribution (Approval) Office Representative

* Code for 22:
A-Submitted for comments, B-Submitted for Review, C-Submitted for Approval, D- Submitted for action(Specify), E- Submitted for Information, F-Final Documentation

ATTACHMENT – 8
SAP PM FORMAT
(Shall be provided later)





Document Control Index

Client : Petroleum Development Oman LLC (PDO)

Job No. : PAIP00405

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Phase: AFC

Discipline Code: Electrical				Current Revision Detail			Earlier Revision Detail		
Item#	Document No	Size	Description:	Rev#	Date:	Status:	Rev#	Date:	Status:
1	NIM-1-2635-400-DQ	A4	Drawing Control Index	A	16-MAY-11	AFC	0	19-SEP-10	IFC
2	NIM-4-2801-001-DQ	A1	415V SLD Main Distribution Board (MDB-1)	B	04-JUN-11	AFC	A	16-MAY-11	AFC
							0	19-SEP-10	IFC
3	NIM-4-2815-002-DQ	A3	SLD OF MDB	A	16-MAY-11	AFC			
4	NIM-4-2817-001-DQ	A1	Cable Layout And DB Location	A	16-MAY-11	AFC	0	19-SEP-10	IFC
5	NIM-4-6411-001-DQ	A1	415 V SLD Power Distribution Board (PDB)	B	04-JUN-11	AFC	A	16-MAY-11	AFC
							0	19-SEP-10	IFC
6	NIM-4-6412-001-DQ	A3	Schematic Lighting Diagram	B	04-JUN-11	AFC	A	16-MAY-11	AFC
							0	19-SEP-10	IFC
7	NIM-4-6413-001-DQ	A3	LV Cable Schedule Cover Sheet	B	04-JUN-11	AFC	A	16-MAY-11	AFC
							0	19-SEP-10	IFC
8	NIM-4-6413-002-DQ	A3	LV Cable Schedule Index Sheet	B	04-JUN-11	AFC	A	16-MAY-11	AFC
							0	19-SEP-10	IFC
9	NIM-4-6413-003-DQ	A3	LV Cable Schedule	B	04-JUN-11	AFC	A	16-MAY-11	AFC
							0	19-SEP-10	IFC
10	NIM-4-6415-001-DQ	A1	Overall Cable Route Layout	A	16-MAY-11	AFC	0	19-SEP-10	IFC
11	NIM-4-6415-002-DQ	A1	Cable Route Layout at Sludge Pit Area	A	16-MAY-11	AFC	0	19-SEP-10	IFC
12	NIM-4-6416-001-DQ	A1	Overall Cable Trench Layout	A	16-MAY-11	AFC	0	19-SEP-10	IFC
13	NIM-4-6416-002-DQ	A1	Cable Trench Layout SWTP	A	16-MAY-11	AFC	0	19-SEP-10	IFC
14	NIM-4-6416-003-DQ	A1	Cable Trench Layout at Sludge Pit Area	A	16-MAY-11	AFC	0	19-SEP-10	IFC
15	NIM-4-6417-001-DQ	A1	Cable Trench Layout Sections	A	16-MAY-11	AFC	0	19-SEP-10	IFC
16	NIM-4-6418-001-DQ	A1	Earthing Layout at Sludge Pit Area	A	16-MAY-11	AFC	0	19-SEP-10	IFC
17	NIM-4-6420-001-DQ	A1	Electrical Control Diagram LV Motors (ABOVE 5.5kW)	A	16-MAY-11	AFC	0	19-SEP-10	IFC
18	NIM-4-6421-001-DQ	A1	Electrical Control Diagram LV Motors (5.5kW & BELOW)	A	16-MAY-11	AFC	0	19-SEP-10	IFC
19	PAIP00405/MTO/401	A4	Electrical Bulk MTO (5 Sheets)	B	20-AUG-11	IFE	0	06-APR-11	IFE
							A	06-APR-11	IFE

ELECTRICAL MTO

Project Title: Nimr Sludge Pit System Upgrade					Principal : PDO		Consignee: PDO		Engg : WorleyParsons Arabian Industries-JV	
Rev.	Date	Description	Prepared	Checked	Approved		Contract No.	Job No.	WBS No.	Revision
					WPAI	PDO	C-31/0606	PAIP00405	C.OM.NIM.IN.09.011	B
O	Oct 2010	Issued for Information	Domison	KD	LM	OSE28N			Doc. Title : Electrical MTO	
A	April 2011	Issued for Enquiry	Khalid	SCB	LM	OSE28N				
B	Aug. 2011	Revised & Reissued for Enquiry							Document No.	Total Sheets
									PAIP00405/MTO/401	5

WorleyParsons Arabian Industries JV

Material Take Off

The preliminary material take off (MTO), Bill of Quantities (BOQ) and quantity in BOQ or MTO provided with tender package shall not be considered for cost estimation. The MTO and BOQ provided with tender do not necessarily contain all the items or material required to complete the scope. The preliminary material take off (MTO), Bill of Quantities (BOQ) and quantity in BOQ or MTO provided with tender package are prepared prior to freezing the design and are preliminary.

Note 1: All cables should be supplied in single straight length. If this is not possible, prior approval shall be taken from Design Engineer prior to bidding, order placement and manufacturing.

Serial Number	Type	SAP #	MESC #	WPAI Spec #	AVME #	Description	UOM	Total Quantity	Rev #	Additional Qty. to be Procured	Remarks
1	Power DB					415V, 125A, 3Ph+N, 50Hz, 10kA for 1 Sec. Outdoor Distribution Board	Each	1	Rev. A		PAIP00405/RQ/401
2	Cable: LV	1000047762	68.44.14.459.1		4.15.1	LV Cable: 4Cx240 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Metre	1800	Rev. A		500mts/Drum size
3	Cable: LV	1000047757	68.44.14.437.1		4.15.1	LV Cable: 4Cx50 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Metre	50	Rev. A		
4	Cable: LV	1000047742	68.44.14.331.1		4.15.1	LV Cable: 3Cx16 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Metre	350	Rev. A		
5	Cable: LV	1000047754	68.44.14.409.1		4.15.1	LV Cable: 4Cx10 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Metre	1000	Rev. B		
6	Cable: LV	1000069262	- -		4.15.1	LV Cable: 2Cx10 sq.mm, 600/1000V, Flexible PVC Copper cable	Metre	30	Rev. B		
7	Cable: LV	1000071265	- -		4.15.1	LV Cable: 2Cx6 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Metre	300	Rev. A		
8	Cable: LV	1000047763	68.44.14.703.1		4.15.1	LV Cable: 7Cx2.5 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Metre	600	Rev. A		
9	Cable: LV	1000047751	68.44.14.403.1		4.15.1	LV Cable: 4Cx2.5 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Metre	350	Rev. B		
10	Cable: LV	1000047738	68.44.14.303.1		4.15.1	LV Cable: 3Cx2.5 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Metre	100	Rev. A		
11	Cable: LV	100047722			4.15.1	LV Cable: 3Cx2.5 sq.mm, 600/1000V, XLPE/SWB/PVC Copper cable	Metre	225	Rev. A		
12	Cable Joint	1000754004	- -		4.16.1	Cable Jointing Kit suitable for 4Cx240 sq.mm, 600/1000V, XLPE/SWA/PVC Copper cable	Each	5	Rev. B		
13	Cable Gland	1000048326	68.80.58.744.1		4.16.5	Cable Gland suitable for 4CX240 sq.mm Cable (M75)	Each	3	Rev. A		
14	Cable Gland	1000048322	68.80.58.736.1		4.16.5	Cable Gland suitable for 4Cx50 sq.mm Cable (M32)	Each	3	Rev. A		
15	Cable Gland	1000048321	68.80.58.734.1		4.16.5	Cable Gland suitable for 3Cx16 sq.mm Cable (M25)	Each	5	Rev. A		
16	Cable Gland	1000048321	68.80.58.734.1		4.16.5	Cable Gland suitable for 4Cx10 sq.mm Cable (M25)	Each	17	Rev. A		
17	Cable Gland	1000048320	68.80.58.732.1		4.16.5	Cable Gland suitable for 2Cx10 sq.mm Cable (M20)	Each	2	Rev. A		
18	Cable Gland	1000048320	68.80.58.732.1		4.16.5	Cable Gland suitable for 2Cx6 sq.mm Cable (M20)	Each	4	Rev. A		
19	Cable Gland	1000048320	68.80.58.732.1		4.16.5	Cable Gland suitable for 7Cx2.5 sq.mm Cable (M20)	Each	10	Rev. A		
20	Cable Gland	1000048320	68.80.58.732.1		4.16.5	Cable Gland suitable for 4Cx2.5 sq.mm Cable (M20)	Each	18	Rev. A		
21	Cable Gland	1000048320	68.80.58.732.1		4.16.5	Cable Gland suitable for 3Cx2.5 sq.mm Cable (M20)	Each	38	Rev. A		
22	Lock Nut	1000048282	68.80.58.090.9		4.16.5	Lock Nut suitable for M75 Gland	Each	3	Rev. A		
23	Lock Nut	1000048278	68.80.58.076.9		4.16.5	Lock Nut suitable for M32 Gland	Each	3	Rev. A		
24	Lock Nut	1000048277	68.80.58.072.9		4.16.5	Lock Nut suitable for M25 Gland	Each	22	Rev. A		
25	Lock Nut	1000048276	68.80.58.068.9		4.16.5	Lock Nut suitable for M20 Gland	Each	72	Rev. A		
26	PVC Shroud	1000048262	68.80.56.924.9		4.16.5	PVC Shroud type-F suitable for M75 Gland	Each	3	Rev. A		

Prepared by........ Checked by.......... Approved by ....

Serial Number	Type	SAP #	MESC #	WPAI Spec #	AVME #	Description	UOM	Total Quantity	Rev #	Additional Qty. to be Procured	Remarks
27	PVC Shroud	1000048258	68.80.56.916.9		4.16.5	PVC Shroud type-C suitable for M32 Gland	Each	3	Rev. A		
28	PVC Shroud	1000048257	68.80.56.914.9		4.16.5	PVC Shroud type-B suitable for M25 Gland	Each	22	Rev. A		
29	PVC Shroud	1000048256	68.80.56.912.9		4.16.5	PVC Shroud type-A suitable for M20 Gland	Each	72	Rev. A		
30	Earth Tag	1000255978	- -		4.16.5	Earth Tag suitable for M75 Gland	Each	3	Rev. A		
31	Earth Tag	1000223714	- -		4.16.5	Earth Tag suitable for M32 Gland	Each	3	Rev. A		
32	Earth Tag	1000223710	- -		4.16.5	Earth Tag suitable for M25 Gland	Each	22	Rev. A		
33	Earth Tag	1000223708	- -		4.16.5	Earth Tag suitable for M20 Gland	Each	72	Rev. A		
34	Cable Lug	1000048099	- -		4.16.1	Cable Lug suitable for 240 sq.mm Cable	Each	10	Rev. B		
35	Cable Lug	1000048085	- -		4.16.1	Cable Lug suitable for 50 sq.mm Cable	Each	10	Rev. B		
36	Cable Lug	1000048084	- -		4.16.1	Cable Lug suitable for 16 sq.mm Cable	Each	15	Rev. B		
37	Cable Lug	1000048083	- -		4.16.1	Cable Lug suitable for 10 sq.mm Cable	Each	75	Rev. B		
38	Cable Lug	1000048081	- -		4.16.1	Cable Lug suitable for 6 sq.mm Cable	Each	20	Rev. B		
39	Cable Lug	1000048080	- -		4.16.1	Cable Lug suitable for 2.5 sq.mm Cable	Each	260	Rev. B		
40	Cable Acces.	1000048555	68.85.12.419.1		4.16.1	Electrical Insulation Tape Yellow, 6 Metre/Roll	Roll	20	Rev. B		
41	Cable Acces.	- -	- -		4.16.1	Pin type terminal blocks & Ferrules	Pkt	A/R	Rev. B		
42	Trench	1000047983	68.76.81.106.9		4.16.3	Underground Cable Tiles size 1000mm x 240mm x 6mm thick	Each	2700	Rev. A		
43	Trench	1000048548	68.85.12.356.9		4.16.3	Underground Warning Tape 150mm width, 365mts/Roll	Metre	2700	Rev. A		
44	Trench	1000048104	68.79.02.006.9		4.16.3	Plain Lead Strip Underground Cable Nos. 19mm x 1.6mm x 300mm Long, 11 Metre/Roll	Roll	10	Rev. A		
45	Trench	1000075844	- -		4.16.3	LV Cable Route Marker	Each	25	Rev. A		
46	Trench	1001205594	- -		4.16.3	100mm Dia uPVC Pipe	Metre	60	Rev. A		
47	Trench	1000048206	68.80.50.914.9		4.16.3	150mm Dia uPVC Pipe	Metre	20	Rev. A		
						CABLE MARKER FOR ABOVE GROUND CABLE AS PER (STD-4-0108-001-4-E)					
48	Cable Acces.	1000521146	- -		4.16.3	Cable Tie, Black, Nylon, 368 x 3.6mm	Pocket	2	Rev. A		
49	Cable Acces.	1000535192	- -		4.16.3	4mm wide Nylon strapping Hellermann TY4-S1	Pocket	2	Rev. A		
50	Cable Acces.	- -	- -		4.16.3	Arrowtag Hellermann type AT3	Pocket	A/R	Rev. A		
51	Cable Acces.	- -	- -		4.16.3	Ovalgrip Marker Hellermann type H085	Pocket	A/R	Rev. A		
52	Cable Tray	1000069935	- -		4.20.5	75mm wide heavy duty return flange G.I. Cable Tray	Metre	25	Rev. A		
53	Cable Tray	1000069990	- -		4.20.5	Ventilated cover for 75mm wide Cable Tray	Metre	25	Rev. A		
54	Cable Tray	1000223944	- -		4.20.5	Cable Tie 240mm Length	Pocket	2	Rev. A		
55	Cable Tray	- -	- -		4.20.5	Nut, Bolt & Clamps for fixing Trays	Each	A/R	Rev. A		
56	Other	- -	- -		4.20.5	G.I. Trunking 75mm x 75mm	Metre	50	Rev. A		

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Serial Number	Type	SAP #	MESC #	WPAI Spec #	AVME #	Description	UOM	Total Quantity	Rev #	Additional Qty. to be Procured	Remarks
57	Other	- -	- -		4.20.5	20x20 Unistrut G.I. Slot Type / 12 Metre Length	Each	A/R	Rev. A		
58	Other	- -	- -		4.20.5	M6x30 Bolt (Bolt Head Half Round)	Each	A/R	Rev. A		
59	Other	- -	- -		4.20.5	M6 Spring Nut	Each	A/R	Rev. A		
60	Other	- -	- -		4.20.5	M25 PVC Gland	Each	A/R	Rev. A		
61	Earthing	1000047626	68.14.07.382.1		4.17.1	1Cx25 sq.mm Y/G Earth Cable	Metre	425	Rev. B		
62	Earthing	1000047627	68.14.07.392.1		4.17.1	1Cx70 sq.mm Y/G Earth Cable	Metre	1200	Rev. B		
63	Earthing	1000048060	68.78.90.426.1		4.17.1	Branch Connector suitable for 70/70 sq.mm	Each	10	Rev. A		
64	Earthing	1000048059	68.78.90.422.1		4.17.1	Branch Connector suitable for 70/25 sq.mm	Each	65	Rev. A		
65	Earthing	1000780669	- -		4.17.1	Earthing Terminal Lugs 1Cx70 sq.mm Cable (Y/G)	Each	10	Rev. A		
66	Earthing	1000780666	- -		4.17.1	Earthing Terminal Lugs 1Cx25 sq.mm Cable (Y/G)	Each	65	Rev. A		
67	Earthing	1000047994	68.77.02.126.9		4.17.1	Earth Boss	Each	55	Rev. A		
68	Earthing	1000048555	68.85.12.419.1		4.16.1	Electrical Insulation Tape Yellow, 6 Metre/Roll	Roll	2	Rev. A		
						STEEL EARTH PIT AS PER DRG, (STD-4-0310-001-4-F)					
69	Earthing	1000048666	68.89.20.148.9		4.17.1	Earth Inspection Pit, Steel housing & Cover	Each	6	Rev. B		
70	Earthing	1000707169	- -		4.17.1	Extensible earth rod,Dia 15mm x LG 1220mm	Each	72	Rev. B		
71	Earthing	1000707154	- -		4.17.1	Coupling screw,p-bz outer thread for 15mm	Each	66	Rev. B		
72	Earthing	1000707153	- -		4.17.1	Steel driving cap,hardened ,allow	Each	6	Rev. B		
73	Earthing	1000707170	- -		4.17.1	Tips, Hardened steel for 15mm driving tip	Each	6	Rev. B		
74	Earthing	1000047990	68.77.02.078.1		4.17.1	70 sq.mm two way through clamp	Each	6	Rev. B		
75	Earthing	1000048060	68.78.90.426.1		4.17.1	Branch connector 70/70 sq.mm	Each	6	Rev. B		
76	Earthing	1001178461	- -		4.17.1	Marconite	Pocket	24	Rev. B		
						EARTHING BUSBAR AS PER DRG, (STD-4-0303-001-4-D)					
77	Earthing	1000045040	67.28.36.188.1		4.17.1	950mm x 50mm x 10mm thick copper bar	Each	3	Rev. A		
78	Earthing	1000062976	81.26.25.112.1		4.17.1	M10 X 100mm Long rawlbolt or equal	Each	6	Rev. A		
79	Earthing	1000062970	81.04.62.188.1		4.17.1	M10 x 40mm Long brass nut and bolt	Each	60	Rev. A		
80	Earthing	- -	81.78.06.160.1		4.17.1	M10 Brass washer	Each	60	Rev. A		
81	Earthing	1000524103	74.13.08.026.1		4.17.1	25mm Dia galvanised line pipe	Metre	1.5	Rev. A		
						EARTHING DETAILS GATE & FENCE AS PER DRG, (STD-4-0306-001-4-D)					
82	Earthing	1000069880	68.01.23.052.9		4.17.1	Flexible Braid Jumper Burndy Type BG-12	Metre	15	Rev. B		
83	Earthing	1000047993	68.77.02.106.9		4.17.1	Burndy Type GK 1826 earth clamp	Each	35	Rev. B		
84	Earthing	1000973324	74.86.05.215.1		4.17.1	25mm Heavy gauge PVC Pipe	Metre	28	Rev. A		
85	Earthing	1000049087	70.32.65.025.1		4.17.1	25mm Saddle	Each	55	Rev. A		
86	Earthing	1000063796	81.41.17.018.1		4.17.1	M10 Carbon Steel Nut	Each	16	Rev. A		
						EARTHING DETAILS FENCE POST AS PER DRG, (STD-4-0308-001-4-D)					
87	Earthing	1000973325	68.77.02.106.1		4.17.1	Burndy Type GK 1826 earth clamp	Each	35	Rev. B		

Prepared by.......... Checked by............Approved by ....

Serial Number	Type	SAP #	MESC #	WPAI Spec #	AVME #	Description	UOM	Total Quantity	Rev #	Additional Qty. to be Procured	Remarks
88	Earthing	1000063796	81.41.17.018.1		4.17.1	M10 Carbon Steel Nut	Each	35	Rev. B		
89	Earthing	1000062587	78.39.10.104.1		4.17.1	12mm Round MS Bar	Metre	35	Rev. B		
90	Junction Box	- -	- -		4.16.6	Electrical Junction Box consists of 8 nos of 240 sq.mm terminal blocks, 8 nos of 50 sq.mm terminal blocks & 1x70 sq.mm + 2x25 sq.mm earth terminal blocks suitable for Hazardous area	Each	1	Rev. A		PAIP00405/RQ/402
91	Junction Box	- -	- -		4.16.6	Electrical Junction Box consists of 8 nos of 10 sq.mm terminal blocks, 8 nos of 2.5 sq.mm terminal blocks & 1x25 sq.mm + 3x2.5 sq.mm earth terminal blocks suitable for Hazardous area	Each	10	Rev. B		PAIP00405/RQ/402
92	Lighting Pole	1000048607	- -		4.19.9	Flood Lighting Pole as Drg. STD-4-0203-001, 10M, Height Stepped Steel pole	Each	8	Rev. A		
93	Lighting Pole		- -		4.19.5	Lighting Pole Type-5 as Drg. STD-4-0207-002	Each	2	Rev. A		
94	Lighting	1090000515	- -		4.19.9	Flood Light Crossarm for 2-Way flood light bracket as Drg. STD-4-0205-001	Each	8	Rev. A		
95	Lighting	1000326313	69.61..22.250.9		4.19.5	250W Floodlight fitting complete with control gear and p.f improvement capacitor with H.P Sodium vapour lamp	Each	16	Rev. A		
96	Lighting	1090003156	- -		4.19.5	2x36W Flourescent Light fittings, EEXe IP-55, normal type, Pole mounted	Each	2	Rev. A		
97	RCU	1000046061	67.92.61.130.1		4.11.3	Remote control unit 50/1A CT Operated 0-30A Ammeter	Each	2	Rev. B		
98	RCU	1000070070	67.92.61.104.1		4.11.3	Remote control unit 5/1A direct Ammeter 0-5A (RCU shall be suitable for 7Cx2.5 sq.mm Incoming cable & 3Cx2.5 sq.mm Outgoing cable) including 2 nos of M20 glands.	Each	2	Rev. A		
						INSTALLATION MATERIALS FOR RCU AS PER DRG STD-4-0109-001-4-D					
99	Access	1000052011	74086.05.345.9		4.20	50mm Heavy Gauge PVC Pipe	Metre	2	Rev. A		
100	Access	1000052014	74.86.05.570.9		4.20	110mm Heavy Gauge PVC Pipe	Metre	2	Rev. A		
101	Access	1000145612	78.47.31.053.1		4.20	100mm x 50mm x 6mm MS Channel	Metre	8	Rev. A		
102	Access	1000542348	- -		4.20	Galvanised Cable Saddle, 20mm DIA	Each	16	Rev. A		
103	Access	1000062976	81.26.25.112.1		4.20	M10 x 100mm Expanding Bolt	Each	8	Rev. A		
104	Access	1000062606	78.43.30.116.1		4.20	6mm MS Plate, **size 300mm x 300mm**	Each	4	Rev. A		

Prepared by............ Checked by............ Approved by ....

ELECTRICAL CABLE SCHEDULE FOR

NIMR SLUDGE PITS SYSTEM UPGRADE-FED & DD

APPROVED FOR CONSTRUCTION

NOTES:-

1. CABLE LENGTH SHOWN ARE ESTIMATED FROM CABLE LAYOUT DRAWINGS.
2. ACTUAL ROUTE LENGTHS ARE TO BE VERIFIED AT SITE BEFORE CUTTING THE CABLE.

REV	DATE	DRAWN BY	CHECKED BY	APPROVED BY	DESCRIPTION	WBS. NO.	REF. ID.	SIGN.
B	JUNE '11	Khalid			REVISED & RE-ISSUED AS AFC	IN.09.011	OSE/28N	
A	MAY '11	Khalid	NMN	LM	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	SEP '10	Khalid	KD	PVT	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PDO APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons – Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJECT NO. : PAIP-00405

DRAWING CONTROL INDEX (NIM-1-2635-400-DQ-4)

NOTES & REFERENCE DRAWINGS

REV	DATE	APPROVED	DESCRIPTION	WBS NO	PROJ. ENG	SPEC. ENG

PDO APPROVAL

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA: NIMR

SUB AREA: SLUDGE PIT AREA NO: 05

DRWG. TYPE: COVER SHEET

DESCRIPTION: CABLE SCHEDULE

شركة تنمية نفط عمان
PETROLEUM DEVELOPMENT OMAN

DRAWING IDENTIFICATION

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
No.	NIM	4	6413	001	DQ	3	B

SHEET No.	DESCRIPTION	REVISION O	A	B	C	D	E	F	G	H	SHEET No.	DESCRIPTION	REVISION O	A	B	C	D	E	F	G	H
001	COVER SHEET	SEP'10	MAY '11	JUNE '11																	
002	REVISION INDEX SHEET	SEP'10	MAY '11	JUNE '11																	
003	LV CABLE SCHEDULE	SEP'10	MAY '11	JUNE '11																	

B

APPROVED FOR CONSTRUCTION

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31 / 0606 PROJECT NO. : PAIP-00405

REV	DATE	DRAWN BY	CHECKED BY	APPROVED BY	DESCRIPTION	WBS NO.	REF. IND.	SIGNATURE
B	JUNE '11	Khalid	[signature]	[signature]	REVISED & RE-ISSUED AS AFC	IN.09.011	OSE/28N	[signature]
A	MAY '11	Khalid	NMN	LM	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	SEP '10	Khalid	KD	PVT	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PDO APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

AREA : NIMR No. 05
SUB AREA : SLUDGE PIT AREA
DRWG. TYPE : REVISION INDEX
DESCRIPTION : CABLE SCHEDULE

شركة تنمية نفط عمان
PETROLEUM DEVELOPMENT OMAN

DRWG No.	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	4	6413	002	DQ	3	B

Rev.	Date	APRROVED BY	DESCRIPTION	WBS NO.	PROJ. ENG.	SPEC. ENG.
					PDO APPROVAL	

DRAWING CONTROL INDEX (NIM-1-2635-400-DQ-4)

NOTES & REFERENCE DRAWINGS

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SENT TO COASTAL DESIGN OFFICE

SR. No.	Cable no.	Type	Length, m	Size, mm2	Volt. grade	From	To	Remarks
	Description of cable					Description of run		
1	LV-48-6059	XLPE/SWA/PVC/CU	25	4Cx50	600/1000V	EXISTING 415V LV SWITCHBOARD FEEDER- Q2 AT SWTP	ELECTRICAL JUNCTION BOX 48-JB-001	
2	LV-48-6060	XLPE/SWA/PVC/CU	1800	4Cx240	600/1000V	ELECTRICAL JUNCTION BOX 48-JB-001	DISTRIBUTION BOARD (G6951)	B
3	LV-48-6061	XLPE/SWA/PVC/CU	250	3Cx16	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-1	P-48357 SLUDGE OIL TRANSFER PUMP	
4	LV-48-6062	XLPE/SWA/PVC/CU	250	7Cx2.5	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-1	RCU (P-48357)	
5	LV-48-6063	XLPE/SWA/PVC/CU	25	4Cx2.5	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-1	CONTROL (START/STOP) RTU PANEL	
6	LV-48-6064	XLPE/SWA/PVC/CU	25	4Cx2.5	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-1	INDICATION (RUNNING/STOPPED) RTU PANEL	
7	LV-48-6065	XLPE/SWA/PVC/CU	100	3Cx16	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-2	P-48358 SLUDGE OIL TRANSFER PUMP	
8	LV-48-6066	XLPE/SWA/PVC/CU	100	7Cx2.5	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-2	RCU (P-48358)	
9	LV-48-6067	XLPE/SWA/PVC/CU	25	4Cx2.5	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-2	CONTROL (START/STOP) RTU PANEL	
10	LV-48-6068	XLPE/SWA/PVC/CU	25	4Cx2.5	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-2	INDICATION (RUNNING/STOPPED) RTU PANEL	
11	LV-48-6069	XLPE/SWA/PVC/CU	100	7Cx2.5	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-4	RCU (P-48359)	
12	LV-48-6070	XLPE/SWA/PVC/CU	20	3Cx2.5	600/1000V	RCU (P-48359)	P-48359 OXYGEN SCAVENGER DOSING PUMP	
13	LV-48-6071	XLPE/SWA/PVC/CU	25	4Cx2.5	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-4	CONTROL (START/STOP) RTU PANEL	
14	LV-48-6072	XLPE/SWA/PVC/CU	25	4Cx2.5	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-4	INDICATION (RUNNING/STOPPED) RTU PANEL	
15	LV-48-6073	XLPE/SWA/PVC/CU	100	7Cx2.5	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-5	RCU (P-48360)	
16	LV-48-6074	XLPE/SWA/PVC/CU	20	3Cx2.5	600/1000V	RCU (P-48360)	P-48360 OXYGEN SCAVENGER DOSING PUMP	
17	LV-48-6075	XLPE/SWA/PVC/CU	25	4Cx2.5	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-5	CONTROL (START/STOP) RTU PANEL	
18	LV-48-6076	XLPE/SWA/PVC/CU	25	4Cx2.5	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-5	INDICATION (RUNNING/STOPPED) RTU PANEL	
19	LV-48-6077	XLPE/SWA/PVC/CU	125	2Cx6	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-10/R	ULTRASONIC FLOW METER	
20	LV-48-6078	XLPE/SWA/PVC/CU	75	4Cx10	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-11	FLOOD LIGHT POLE (FLP-2)	
21	LV-48-6079	XLPE/SWA/PVC/CU	160	4Cx10	600/1000V	FLOOD LIGHT POLE (FLP-2)	FLOOD LIGHT POLE (FLP-3)	
22	LV-48-6080	XLPE/SWA/PVC/CU	175	4Cx10	600/1000V	FLOOD LIGHT POLE (FLP-3)	FLOOD LIGHT POLE (FLP-4)	B
23	LV-48-6081	XLPE/SWA/PVC/CU	160	4Cx10	600/1000V	FLOOD LIGHT POLE (FLP-4)	FLOOD LIGHT POLE (FLP-5)	
24	LV-48-6082	XLPE/SWA/PVC/CU	250	4Cx10	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-11	FLOOD LIGHT POLE (FLP-1)	
25	LV-48-6083	XLPE/SWA/PVC/CU	160	4Cx10	600/1000V	FLOOD LIGHT POLE (FLP-1)	FLOOD LIGHT POLE (FLP-8)	
26	LV-48-6084	XLPE/SWA/PVC/CU	160	4Cx10	600/1000V	FLOOD LIGHT POLE (FLP-8)	FLOOD LIGHT POLE (FLP-7)	
27	LV-48-6085	XLPE/SWA/PVC/CU	170	4Cx10	600/1000V	FLOOD LIGHT POLE (FLP-7)	FLOOD LIGHT POLE (FLP-6)	
28	LV-48-6086	XLPE/SWA/PVC/CU	25	2Cx10	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-10/Y	RTU	
28	LV-48-6087	XLPE/SWA/PVC/CU	125	2Cx6	600/1000V	DISTRIBUTION BOARD (G6951) FEEDER-10/B	CORIOLIS FLOW METER	
30								
31								
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33								
34								
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36								
37								
38								APPROVED FOR CONSTRUCTION
39								
40								

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.:C31/0606 | PROJECT NO.:PAIP-00405

REV	DATE	DRAWN BY	CHECKED BY	APPROVED BY	DESCRIPTION	WBS NO.	REF. IND.	SIGNATURE
B	JUNE '11	Khalid			REVISED & RE-ISSUED AS AFC	IN.09.011	OSE/28N	
A	MAY '11	Khalid	NMN	LM	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	SEP '10	Khalid	KD	PVT	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PDO APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

DRAWING CONTROL INDEX (NIM-12635-400-DQ-4)	Rev.	Date	APPROVED BY	DESCRIPTION	WBS NO.	PROJ. ENG. / PDO APPROVAL

NOTES & REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SENT TO COASTAL DESIGN OFFICE

AREA : NIMR — No. 05
SUB AREA : SLUDGE PIT AREA
DRWG TYPE : SCHEDULE
DESCRIPTION : LV CABLE SCHEDULE

شركة تنمية نفط عمان
PETROLEUM DEVELOPMENT OMAN

DRWG No.	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	4	6413	003	DQ	3	B

UTILITY DATA SHEET

SR.NO.	DESCRIPTION	DRAWING NO.	REV. 0	REV. A	REV. B	REV. C
1	UTILITY DATA SHEET - 415V OUDOOR DISTRIBUTION BOARD (G-6951)	NIM-6419-002	SEP'10	JUNE'11		

REV	DATE	PPD. BY	CHK'ED BY	APPRD. BY	DESCRIPTION	WBS NO.	PROJ.ENG.	SIGN.
A	JUNE'11	KD			APROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
O	SEP'10	KD	PVT	LM	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PDO APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS, MARKED UP PRINT SHALL BE SENT TO PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO. **C31/0606** PROJ.NO. **PAIP00405**

REV	DATE	APPROVED BY	DESCRIPTION	WBS NO.	PROJ.ENG	SPEC.ENG
					PDO APPROVAL	

1. DRAWING CONTROL INDEX
MAR-1-2635-400-DQ

~~NOTES~~ / REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS, MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : SLUDGE PIT FACILITY 5

DRWG. TYPE : UTILITY DATA SHEET

DESCRIPTION : UTILITY DATA SHEET FOR 415V LV OUTDOOR DB

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG.	AREA CODE	ENGG. SECT.	SERIAL NUMBER	SHEET	PROJ CODE	DRG SIZE	REV
NO.	NIM	4	6419	001	DQ	A3	A

Equipment No.	Description	Vital	Essential	Non essential	Re-starting	ABSORBED LOAD [A] kW	MOTOR RATING [B] kW	LOAD FACTOR = A/B [C] in decimals	EFFICIENCY at load factor C [D] in decimals	POWER FACTOR at load factor C cos φ	CONSUMED LOAD Continuous [E] kW	Continuous [E] kVAr	Intermittent [F] kW	Intermittent [F] kVAr	Stand-by [G] kW	Stand-by [G] kVAr	REMARKS
	OUTDOOR DISTRIBUTION BOARD LOADS (G-6951)																
P-48357	SLUDGE OIL TRANSFER PUMP FDR#1		E			19.80	22.00	0.90	0.88	0.88	22.50	12.14					
P-48358	SLUDGE OIL TRANSFER PUMP FDR#2		E			19.80	22.00	0.90	0.88	0.88					22.50	12.14	
P-48359*	OXYGEN SCAVENGER PUMP (CHEMICAL INJECTION SKID)		E			0.68	0.75	0.90	0.88	0.88	0.77	0.41					* KW rating is on hold due to unavailable of vendor data
P-48360*	OXYGEN SCAVENGER PUMP (CHEMICAL INJECTION SKID)		E			0.68	0.75	0.90	0.88	0.88					0.77	0.41	* KW rating is on hold due to unavailable of vendor data
48-FIA-1414*	ULTRASONIC FLOW METER		E			0.02	0.02	1.00	0.95	0.85	0.02	0.01					* KW rating is on hold due to unavailable of vendor data
48-FIA-1415*	CORIOLIS FLOW METER		E			0.02	0.02	1.00	0.95	0.85	0.02	0.01					* KW rating is on hold due to unavailable of vendor data
	IPS PANEL		E			2.50	2.50	1.00	0.95	0.85	2.63	1.63					
	3PHS SOCKET OUTLET		E			3.00	3.00	1.00	0.95	0.85	3.16	1.96					
	FLOOD LIGHT POLES		E			4.00	4.00	1.00	0.95	0.85	4.21	2.61					

kW = A/D; kVAr = kW.tg φ

Maximum of normal running plant load:
(Est. x%E + y%F) 33.31 kW; 18.78 kVAr; $\sqrt{kW^2 + kVAr^2}$ = 38.24 kVA

Peak load
(Est. x%E +y%F + z%G) 35.64 kW; 20.04 kVAr; $\sqrt{kW^2 + kVAr^2}$ = 40.88 kVA

Coincidence factors x, y and z shall be defined for each separate case, subject to Principal's approval.

	Continuous kW	Continuous kVAr	Intermittent kW	Intermittent kVAr	Stand-by kW	Stand-by kVAr
TOTAL	33.31	18.78	0.00	0.00	23.27	12.56
kVA (= $\sqrt{kW^2 + kVAr^2}$)	38.24		0.00		26.44	

Power factor without compensation (cos φ): 0.87

Power factor with compensation (cos φ_1):

Required capacitor rating [= kW (tgφ - tgφ_1)]: kVAr

NOTES

a) **Load classification/restarting:**
For definitions of "Vital", "Essential" and "Non-Essential" services and application of "Restarting", see DEP 33.64.10.10-Gen.

b) **Absorbed loads:**
- for pumps, shaft load on duty point;
- for instrumentation, computers, communiction, air conditioning, the required load during full operation of plant;
- for lighting during dark hours;
- for workshops, the average total load in normal full operation

C) **Consumed loads:**
E - "Continuous": all loads that may continuously be required for normal operation, including lighting and workshops
F - "Intermittent": the loads required for intermediate pumping, storage, loading, etc.
G - "Stand-by": loads required in emergencies only, such as fire-water pumps or those of normally not running electrically driven units stand-by for normally running steam-driven ones (e.g charge pumps, boiler feed pumps).

THIS COMPLETE DATA SHEET IS NEW AND IS PREPARED FOR PROJECT 'XX' WBS No. NIM.IN.09.011.

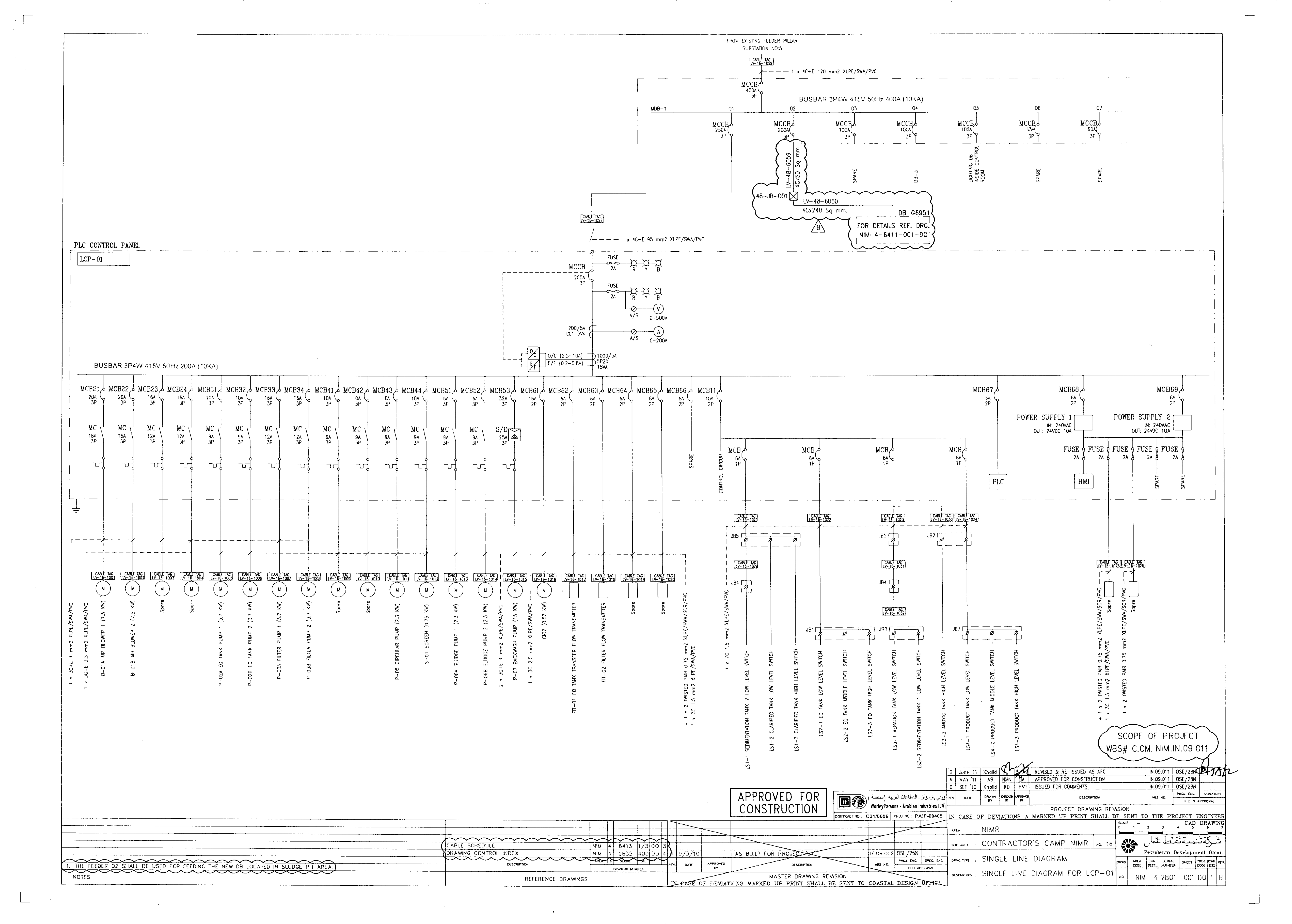
WorleyParsons-Arabian Industries (JV)

Coincidence Factors (needs PDO's approval)					
x	1	y	0.3	z	0.1

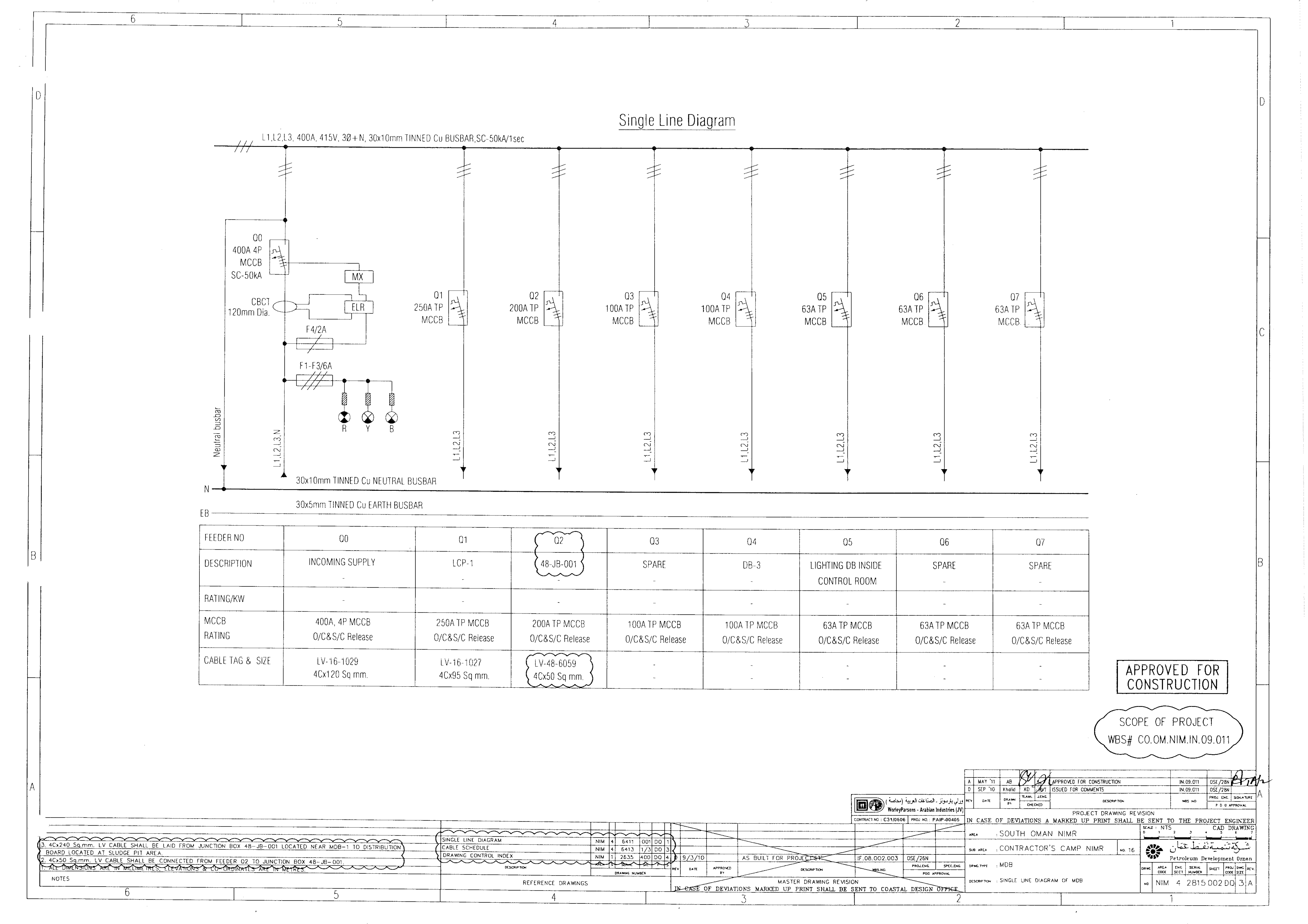
Contract No. C31/0606	Job No. PAIP 00405	Area Nimr	SWBD : 415V OUDOOR DISTRIBUTION BOARD
Project title	Nimr Sludge pit system upgrade -FED / DD		UTILITY DATA - ELECTRICAL
Principal	Petroleum Development Oman LLC		Contract No. C 31/0606
Consignee	Petroleum Development Oman LLC		Project No.: PAIP00405
Eng. by:	Worley Parsons - Arabian Industries (JV)		Drawing No.: NIM-4-6419-002 Sheet no. 1 of 1

Revision letter	0	A
Date	SEP.'10	JUNE'11
Signature		

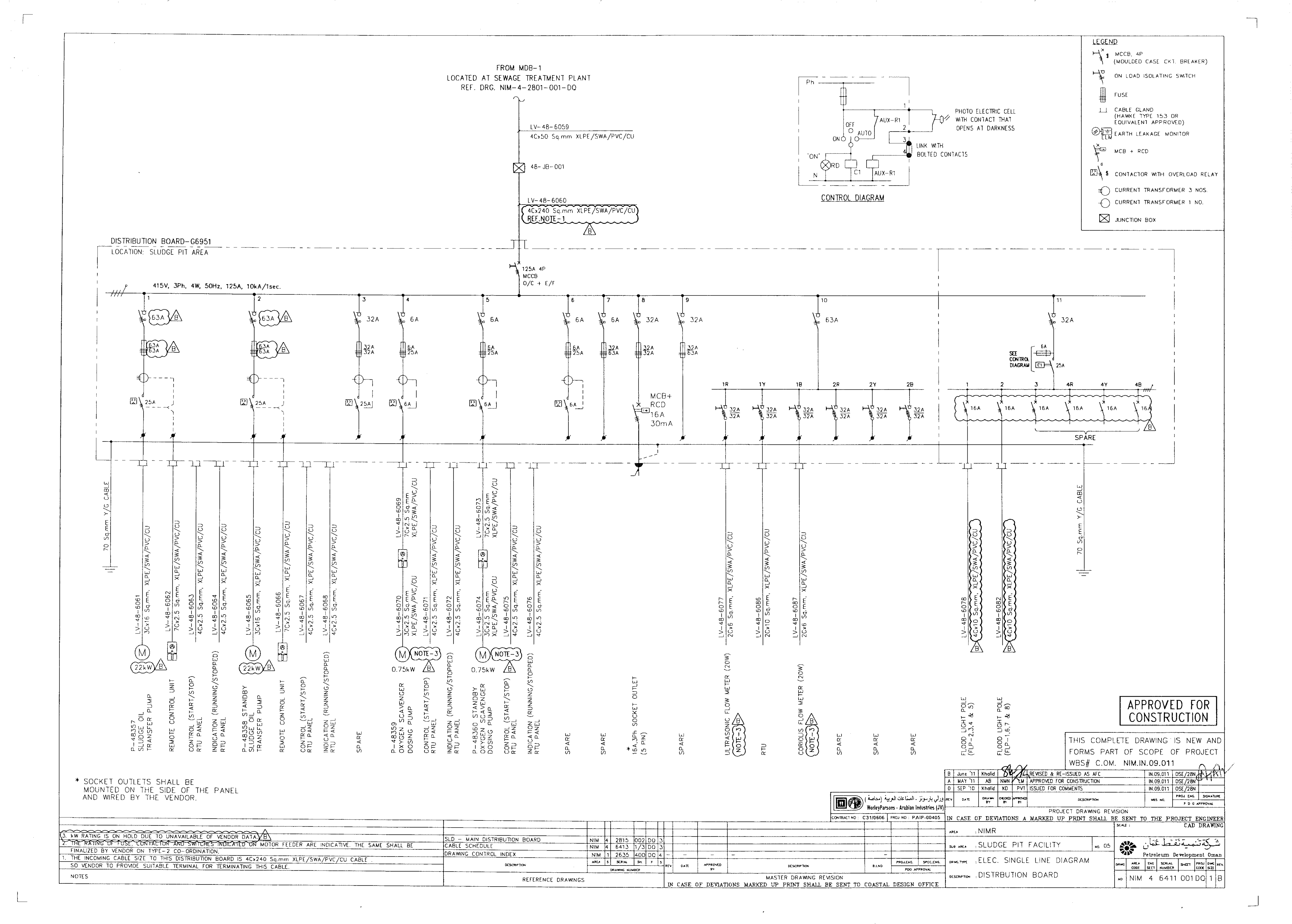
DEP 05.00.10.80-Gen, Sheet 1 of 2, 03/2003

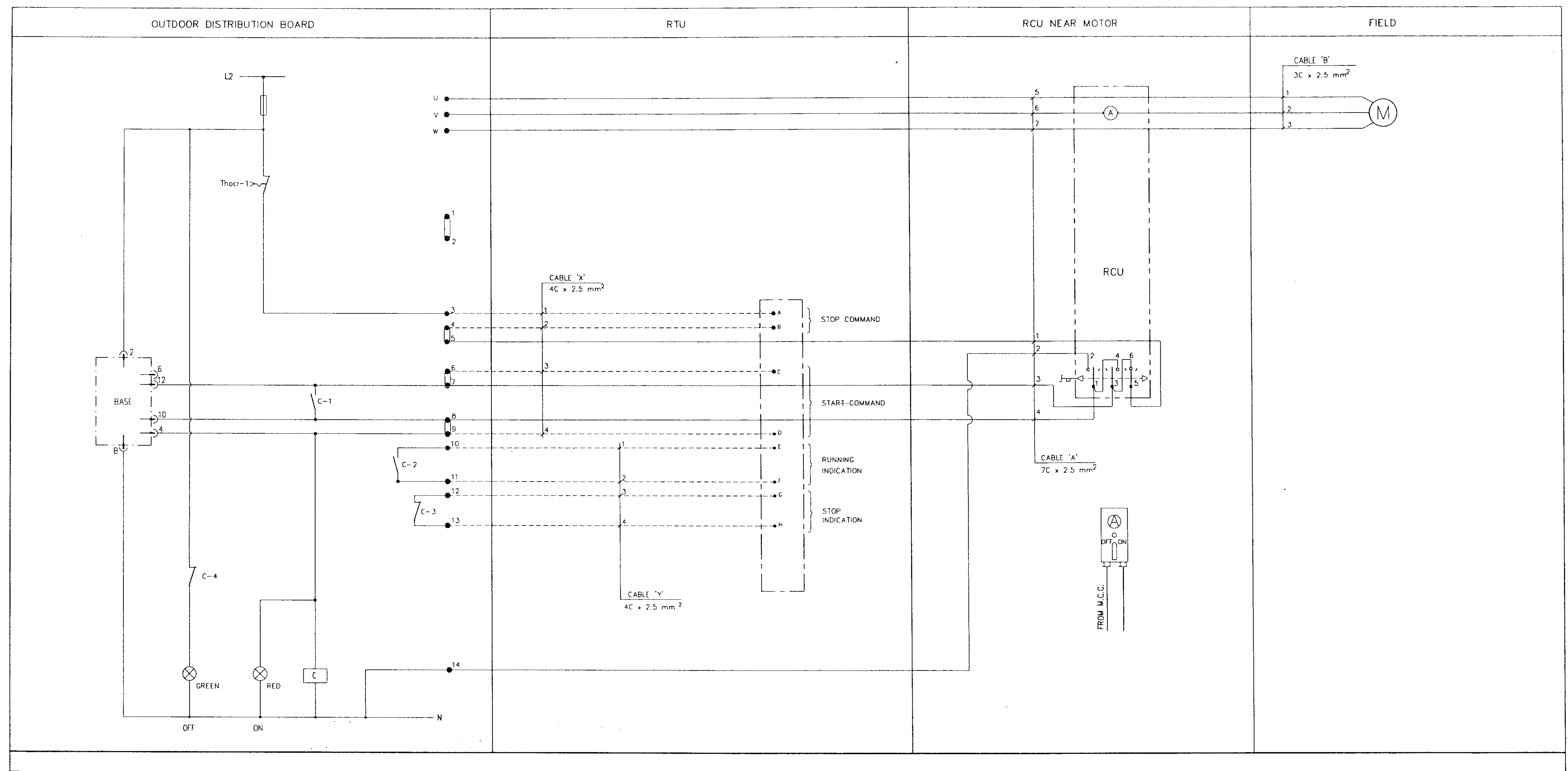


FROM EXISTING FEEDER PILLAR
SUBSTATION NO:5
1 x 4C+E 120 mm2 XLPE/SWA/PVC
MCCB 400A 3P
BUSBAR 3P4W 415V 50Hz 400A (10KA)
MDB-1
MCCB 250A 3P
MCCB 200A 3P
MCCB 100A 3P
MCCB 63A 3P
LV-48-6059
4Cx50 Sq mm.
48-JB-001
LV-48-6060
4Cx240 Sq mm.
DB-G6951
FOR DETAILS REF. DRG. NIM-4-6411-001-DQ
SPARE
DB-3
LIGHTING DB INSIDE CONTROL ROOM
1 x 4C+E 95 mm2 XLPE/SWA/PVC
PLC CONTROL PANEL
LCP-01
MCCB 200A 3P
FUSE 2A
V/S
0-500V
200/5A CL1 5VA
A/S
0-200A
O/C (2.5-10A)
E/F (0.2-0.8A)
1000/5A 5P20 15VA
BUSBAR 3P4W 415V 50Hz 200A (10KA)
MCB21 MCB22 MCB23 MCB24 MCB31 MCB32 MCB33 MCB34 MCB41 MCB42 MCB43 MCB44 MCB51 MCB52 MCB53 MCB61 MCB62 MCB63 MCB64 MCB65 MCB66 MCB11
MCB67 MCB68 MCB69
POWER SUPPLY 1
POWER SUPPLY 2
IN: 240VAC
OUT: 24VDC 10A
PLC
HMI
S/D 25A 3P
CONTROL CIRCUIT
SPARE
JB1 JB2 JB3 JB4 JB5 JB7
1 x 3C+E 4 mm2 XLPE/SWA/PVC
1 x 3C+E 2.5 mm2 XLPE/SWA/PVC
B-01A AIR BLOWER 1 (7.5 KW)
B-01B AIR BLOWER 2 (7.5 KW)
Spare
P-02A EQ TANK PUMP 1 (3.7 KW)
P-02B EQ TANK PUMP 2 (3.7 KW)
P-03A FILTER PUMP 1 (3.7 KW)
P-03B FILTER PUMP 2 (3.7 KW)
P-05 CIRCULAR PUMP (2.3 KW)
S-01 SCREEN (0.75 KW)
P-06A SLUDGE PUMP 1 (2.3 KW)
P-06B SLUDGE PUMP 2 (2.3 KW)
2 x 3C+E 4 mm2 XLPE/SWA/PVC
P-07 BACKWASH PUMP (15 KW)
1 x 3C 2.5 mm2 XLPE/SWA/PVC
CIO2 (0.57 KW)
FIT-01 EQ TANK TRANSFER FLOW TRANSMITTER
FIT-02 FILTER FLOW TRANSMITTER
1 x 2 TWISTED PAIR 0.75 mm2 XLPE/SWA/SCR/PVC
1 x 3C 1.5 mm2 XLPE/SWA/PVC
1 x 7C 1.5 mm2 XLPE/SWA/PVC
LS1-1 SEDIMENTATION TANK 2 LOW LEVEL SWITCH
LS1-2 CLARIFIED TANK LOW LEVEL SWITCH
LS1-3 CLARIFIED TANK HIGH LEVEL SWITCH
LS2-1 EQ TANK LOW LEVEL SWITCH
LS2-2 EQ TANK MIDDLE LEVEL SWITCH
LS2-3 EQ TANK HIGH LEVEL SWITCH
LS3-1 AERATION TANK LOW LEVEL SWITCH
LS3-2 SEDIMENTATION TANK 1 LOW LEVEL SWITCH
LS3-3 ANOXIC TANK HIGH LEVEL SWITCH
LS4-1 PRODUCT TANK LOW LEVEL SWITCH
LS4-2 PRODUCT TANK MIDDLE LEVEL SWITCH
LS4-3 PRODUCT TANK HIGH LEVEL SWITCH
SCOPE OF PROJECT
WBS# C.OM. NIM.IN.09.011
B | June '11 | Khalid | REVISED & RE-ISSUED AS AFC | IN.09.011 | OSE/28N
A | MAY '11 | AB | NMN | KM | APPROVED FOR CONSTRUCTION | IN.09.011 | OSE/28N
0 | SEP '10 | Khalid | KD | PVT | ISSUED FOR COMMENTS | IN.09.011 | OSE/28N
PROJECT DRAWING REVISION
APPROVED FOR CONSTRUCTION
WorleyParsons - Arabian Industries (JV)
CONTRACT NO. C31/0606
PROJ NO. PAIP-00405
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
CAD DRAWING
AREA : NIMR
SUB AREA : CONTRACTOR'S CAMP NIMR
DRWG TYPE : SINGLE LINE DIAGRAM
DESCRIPTION : SINGLE LINE DIAGRAM FOR LCP-01
NIM 4 2801 001 DQ 1 B
Petroleum Development Oman
شركة تنمية نفط عمان
CABLE SCHEDULE | NIM | 4 | 6413 | 1/3 | DQ | 3
DRAWING CONTROL INDEX | NIM | 1 | 2635 | 400 | DQ | 4
REFERENCE DRAWINGS
9/3/10 | AS BUILT FOR PROJECT
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
1. THE FEEDER 02 SHALL BE USED FOR FEEDING THE NEW DB LOCATED IN SLUDGE PIT AREA.
NOTES



FEEDER NO	Q0	Q1	Q2	Q3	Q4	Q5	Q6	Q7
DESCRIPTION	INCOMING SUPPLY -	LCP-1 -	48-JB-001 -	SPARE -	DB-3 -	LIGHTING DB INSIDE CONTROL ROOM	SPARE -	SPARE -
RATING/KW	-	-	-	-	-	-	-	-
MCCB RATING	400A, 4P MCCB O/C&S/C Release	250A TP MCCB O/C&S/C Release	200A TP MCCB O/C&S/C Release	100A TP MCCB O/C&S/C Release	100A TP MCCB O/C&S/C Release	63A TP MCCB O/C&S/C Release	63A TP MCCB O/C&S/C Release	63A TP MCCB O/C&S/C Release
CABLE TAG & SIZE	LV-16-1029 4Cx120 Sq.mm.	LV-16-1027 4Cx95 Sq.mm.	LV-48-6059 4Cx50 Sq.mm.	- -	- -	- -	- -	- -


FROM MDB-1
LOCATED AT SEWAGE TREATMENT PLANT
REF. DRG. NIM-4-2801-001-DQ
LV-48-6059
4Cx50 Sq.mm XLPE/SWA/PVC/CU
48-JB-001
LV-48-6060
4Cx240 Sq.mm XLPE/SWA/PVC/CU
REF.NOTE-1
DISTRIBUTION BOARD-G6951
LOCATION: SLUDGE PIT AREA
125A 4P MCCB O/C + E/F
415V, 3Ph, 4W, 50Hz, 125A, 10kA/1sec.
CONTROL DIAGRAM
PHOTO ELECTRIC CELL WITH CONTACT THAT OPENS AT DARKNESS
LINK WITH BOLTED CONTACTS
LEGEND
MCCB, 4P (MOULDED CASE CKT. BREAKER)
ON LOAD ISOLATING SWITCH
FUSE
CABLE GLAND (HAWKE TYPE 153 OR EQUIVALENT APPROVED)
EARTH LEAKAGE MONITOR
MCB + RCD
CONTACTOR WITH OVERLOAD RELAY
CURRENT TRANSFORMER 3 NOS.
CURRENT TRANSFORMER 1 NO.
JUNCTION BOX
MCB+ RCD 16A 30mA
SPARE
70 Sq.mm Y/G CABLE
LV-48-6061 3Cx16 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6062 7Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6063 4Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6064 4Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6065 3Cx16 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6066 7Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6067 4Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6068 4Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6069 7Cx2.5 Sq.mm XLPE/SWA/PVC/CU
LV-48-6070 3Cx2.5 Sq.mm XLPE/SWA/PVC/CU
LV-48-6071 4Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6072 4Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6073 7Cx2.5 Sq.mm XLPE/SWA/PVC/CU
LV-48-6074 3Cx2.5 Sq.mm XLPE/SWA/PVC/CU
LV-48-6075 4Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6076 4Cx2.5 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6077 2Cx6 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6086 2Cx10 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6087 2Cx6 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6078 4Cx10 Sq.mm, XLPE/SWA/PVC/CU
LV-48-6082 4Cx10 Sq.mm, XLPE/SWA/PVC/CU
22kW
0.75kW
NOTE-3
P-48357 SLUDGE OIL TRANSFER PUMP
REMOTE CONTROL UNIT
CONTROL (START/STOP) RTU PANEL
INDICATION (RUNNING/STOPPED) RTU PANEL
P-48358 STANDBY SLUDGE OIL TRANSFER PUMP
P-48359 OXYGEN SCAVENGER DOSING PUMP
P-48360 STANDBY OXYGEN SCAVENGER DOSING PUMP
16A,3Ph SOCKET OUTLET (5 PIN)
ULTRASONIC FLOW METER (20W)
RTU
CORIOLIS FLOW METER (20W)
FLOOD LIGHT POLE (FLP-2,3,4 & 5)
FLOOD LIGHT POLE (FLP-1,6,7 & 8)
APPROVED FOR CONSTRUCTION
THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJECT WBS# C.OM. NIM.IN.09.011
* SOCKET OUTLETS SHALL BE MOUNTED ON THE SIDE OF THE PANEL AND WIRED BY THE VENDOR.
3. kW RATING IS ON HOLD DUE TO UNAVAILABLE OF VENDOR DATA
2. THE RATING OF FUSE, CONTACTOR AND SWITCHES INDICATED ON MOTOR FEEDER ARE INDICATIVE. THE SAME SHALL BE FINALIZED BY VENDOR ON TYPE-2 CO-ORDINATION.
1. THE INCOMING CABLE SIZE TO THIS DISTRIBUTION BOARD IS 4Cx240 Sq.mm XLPE/SWA/PVC/CU CABLE. SO VENDOR TO PROVIDE SUITABLE TERMINAL FOR TERMINATING THIS CABLE.
NOTES
SLD - MAIN DISTRIBUTION BOARD
CABLE SCHEDULE
DRAWING CONTROL INDEX
REFERENCE DRAWINGS
B June '11 Khalid REVISED & RE-ISSUED AS AFC
A MAY '11 AB APPROVED FOR CONSTRUCTION
0 SEP '10 Khalid ISSUED FOR COMMENTS
WorleyParsons - Arabian Industries (JV)
CONTRACT NO: C31/0606 PROJ NO: PAIP-00405
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
CAD DRAWING
AREA NIMR
SUB AREA SLUDGE PIT FACILITY
DRWG.TYPE ELEC. SINGLE LINE DIAGRAM
DESCRIPTION DISTRBUTION BOARD
Petroleum Development Oman
NIM 4 6411 001 DQ 1 B



MOTOR (EQUIPMENT) No.	kW	MAIN PUMP	PANEL MODULE No.	CABLE 'A'		CABLE 'B' No.	CABLE 'X'					CABLE 'Y'				
				CABLE SIZE	CABLE No.		CABLE No.	TERMINAL NUMBERS				CABLE No.	TERMINAL NUMBERS			
								A	B	C	D		E	F	G	H
OXYGEN SCAVENGER DOSING PUMP MOTOR	0.37	P-48359	4	3Cx2.5	LV-48-6069	LV-48-6070	LV-48-6071	*	*	*	*	LV-48-6072	*	*	*	*
OXYGEN SCAVENGER DOSING PUMP MOTOR	0.37	P-48360	5	3Cx2.5	LV-48-6073	LV-48-6074	LV-48-6075	*	*	*	*	LV-48-6076	*	*	*	*

* TERMINAL NUMBERS BY C&A FOR DETAILS REF. DRG. NO. NIM-5-4745-xxx-DQ

APPROVED FOR CONSTRUCTION

THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJECT WBS# C.OM. NIM.IN.09.011

REV.	DATE	DRAWN BY	CHECKED BY	APPROVED BY	DESCRIPTION	WBS NO.	PROJ. ENG.	SIGNATURE
A	MAY '11	AB			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	SEPT.'09	Kholid	KD	PVT	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO : C31/0606 PROJ NO : PAIP 00405

DESCRIPTION	AREA	1	SERIAL	SH.	#	1
CABLE SCHEDULE	NIM	4	6413	1/3	DQ	3
DRAWING CONTROL INDEX	NIM	1	2635	400	DQ	4

DRAWING NUMBER

NOTES

REFERENCE DRAWINGS

REV.	DATE	APPROVED BY	DESCRIPTION	WBS NO.	PROJ. ENG.	SPEC. ENG.
-	-	-				

PDO APPROVAL

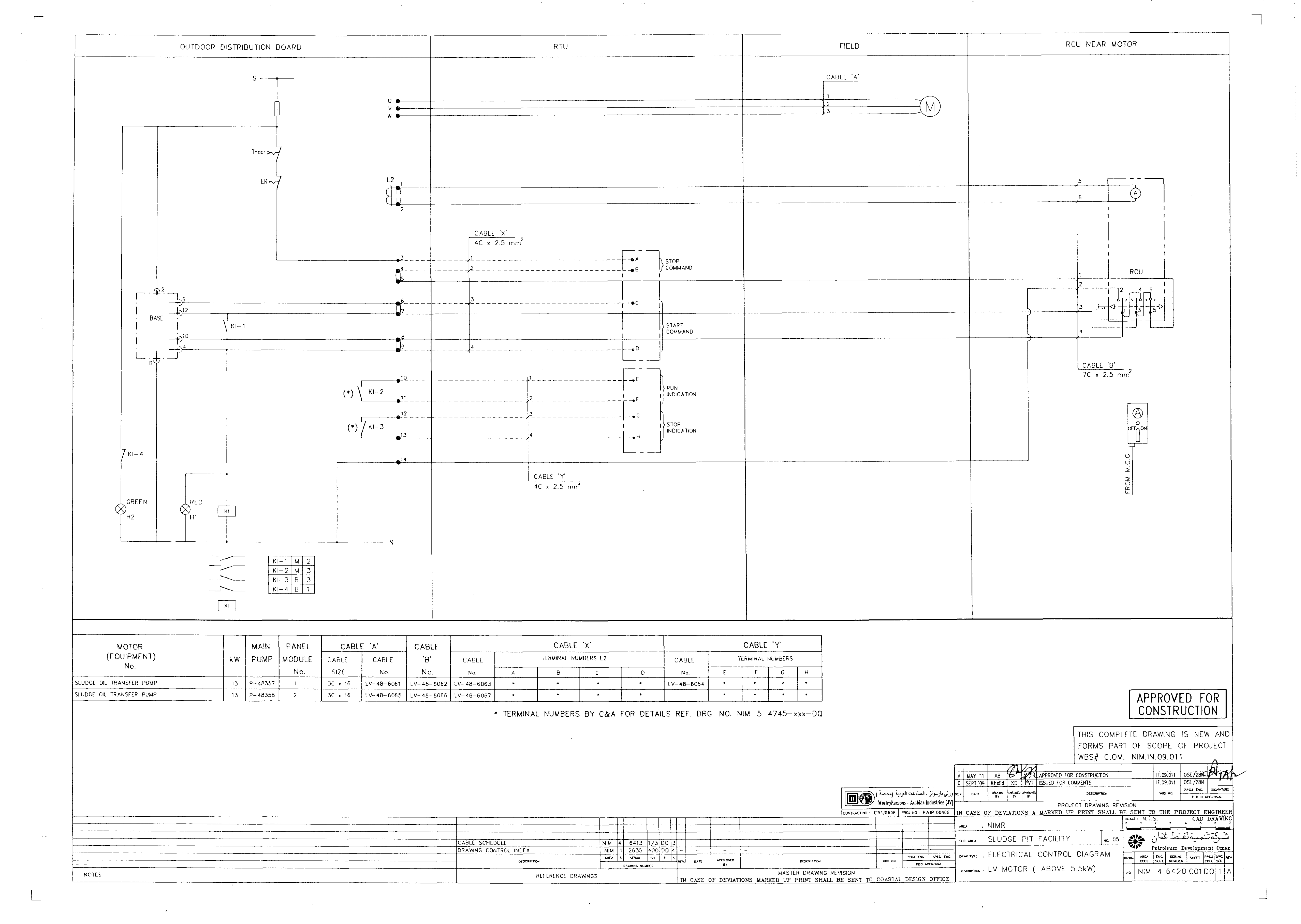
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR
SUB AREA : SLUDGE PIT FACILITY NO. 05
DRWG. TYPE : ELECTRICAL CONTROL DIAGRAM
DESCRIPTION : LV MOTOR (5.5kW & BELOW)

SCALE : N.T.S. CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG.	AREA CODE	ENG. SECT.	SERIAL NUMBER	SHEET	PROJ. CODE	DWG. SIZE	REV.
NO.	NIM	4	6421	001	DQ	1	A



KI-1	M	2
KI-2	M	3
KI-3	B	3
KI-4	B	1

MOTOR (EQUIPMENT) No.	kW	MAIN PUMP	PANEL MODULE No.	CABLE 'A'		CABLE 'B' No.	CABLE 'X'					CABLE 'Y'				
				CABLE SIZE	CABLE No.		CABLE No.	TERMINAL NUMBERS L2 A	B	C	D	CABLE No.	TERMINAL NUMBERS E	F	G	H
SLUDGE OIL TRANSFER PUMP	13	P-48357	1	3C x 16	LV-48-6061	LV-48-6062	LV-48-6063	*	*	*	*	LV-48-6064	*	*	*	*
SLUDGE OIL TRANSFER PUMP	13	P-48358	2	3C x 16	LV-48-6065	LV-48-6066	LV-48-6067	*	*	*	*		*	*	*	*

* TERMINAL NUMBERS BY C&A FOR DETAILS REF. DRG. NO. NIM-5-4745-xxx-DQ

APPROVED FOR CONSTRUCTION

THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJECT WBS# C.OM. NIM.IN.09.011

REV.	DATE	DRAWN BY	CHECKED BY	APPROVED BY	DESCRIPTION	WBS NO.	PROJ. ENG.	SIGNATURE
A	MAY '11	AB			APPROVED FOR CONSTRUCTION	IF.09.011	OSE/28N	
0	SEPT.'09	Khalid	KD	PVT	ISSUED FOR COMMENTS	IF.09.011	OSE/28N	

P D D APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

(محاصة) ورلي بارسونز - الصناعات العربية
WorleyParsons - Arabian Industries (JV)

CONTRACT NO: C31/0606 PROJ. NO: PAIP 00405

DESCRIPTION	AREA	SERIAL	SH.	F	S
CABLE SCHEDULE	NIM 4	6413	1/3	DQ	3
DRAWING CONTROL INDEX	NIM 1	2635	400	DQ	4

DRAWING NUMBER

REFERENCE DRAWINGS

NOTES

REV. DATE APPROVED BY DESCRIPTION WBS NO PROJ. ENG. SPEC. ENG. PDO APPROVAL

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : SLUDGE PIT FACILITY NO. 05

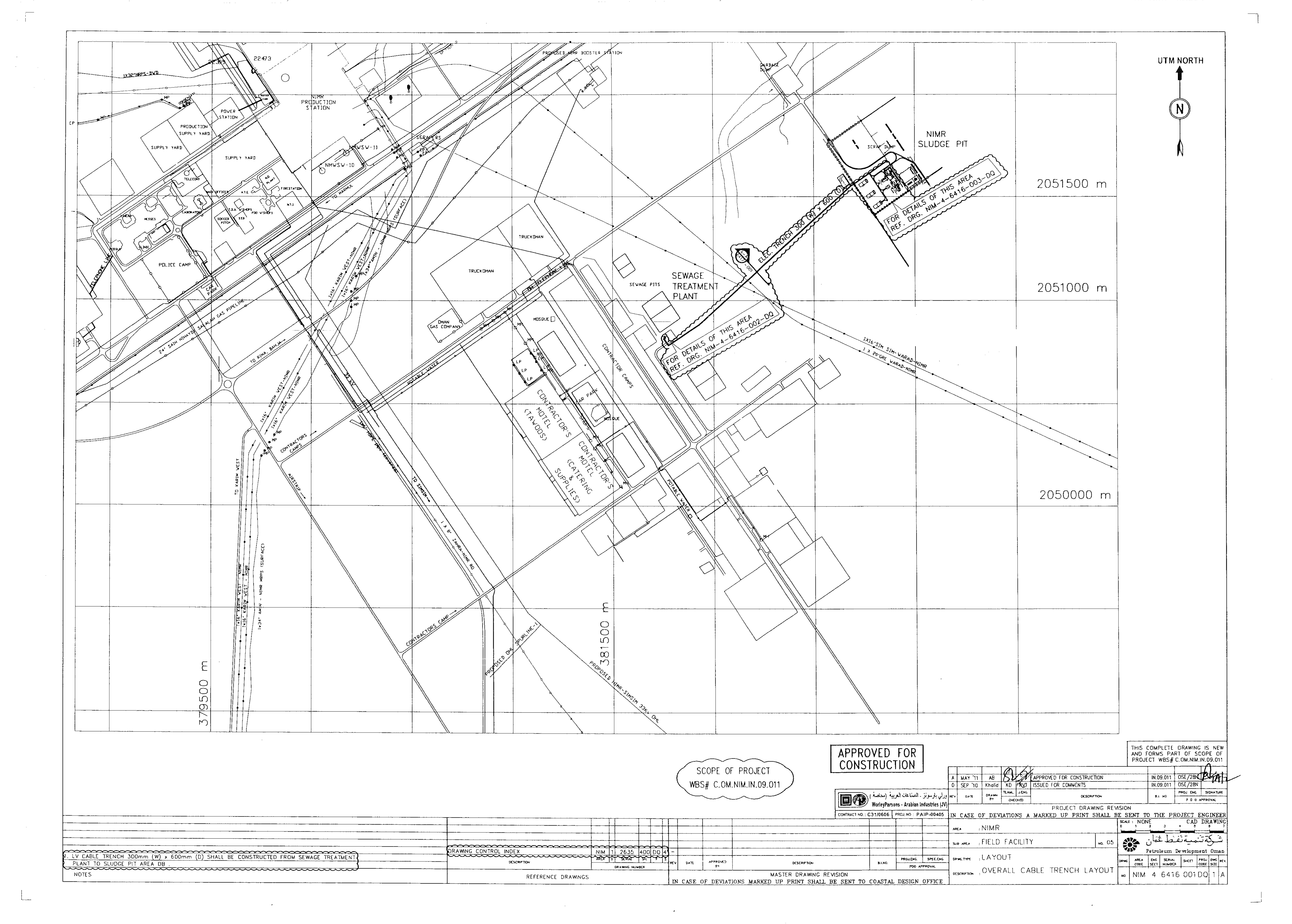
DRWG. TYPE : ELECTRICAL CONTROL DIAGRAM

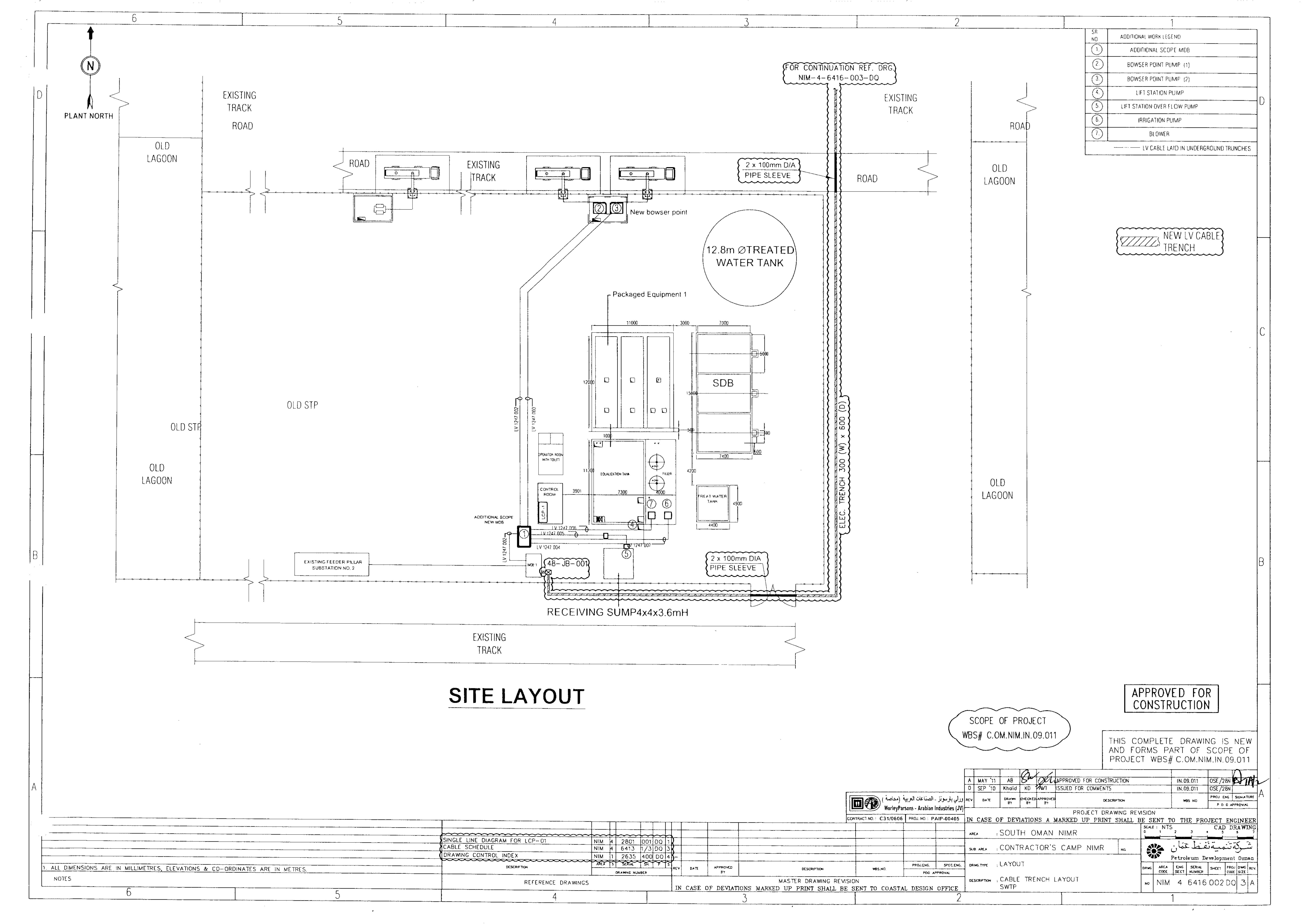
DESCRIPTION : LV MOTOR (ABOVE 5.5kW)

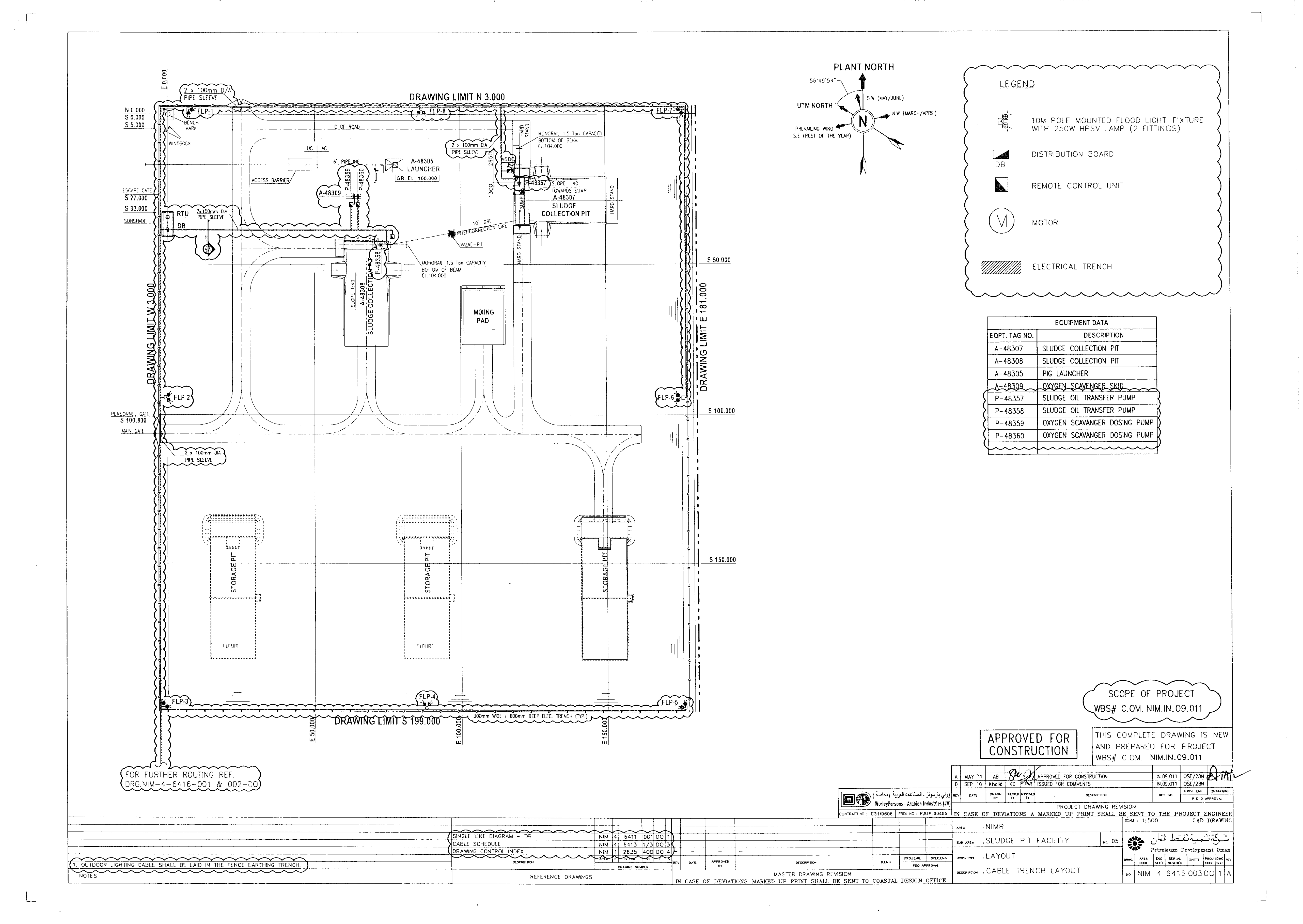
SCALE : N.T.S. CAD DRAWING

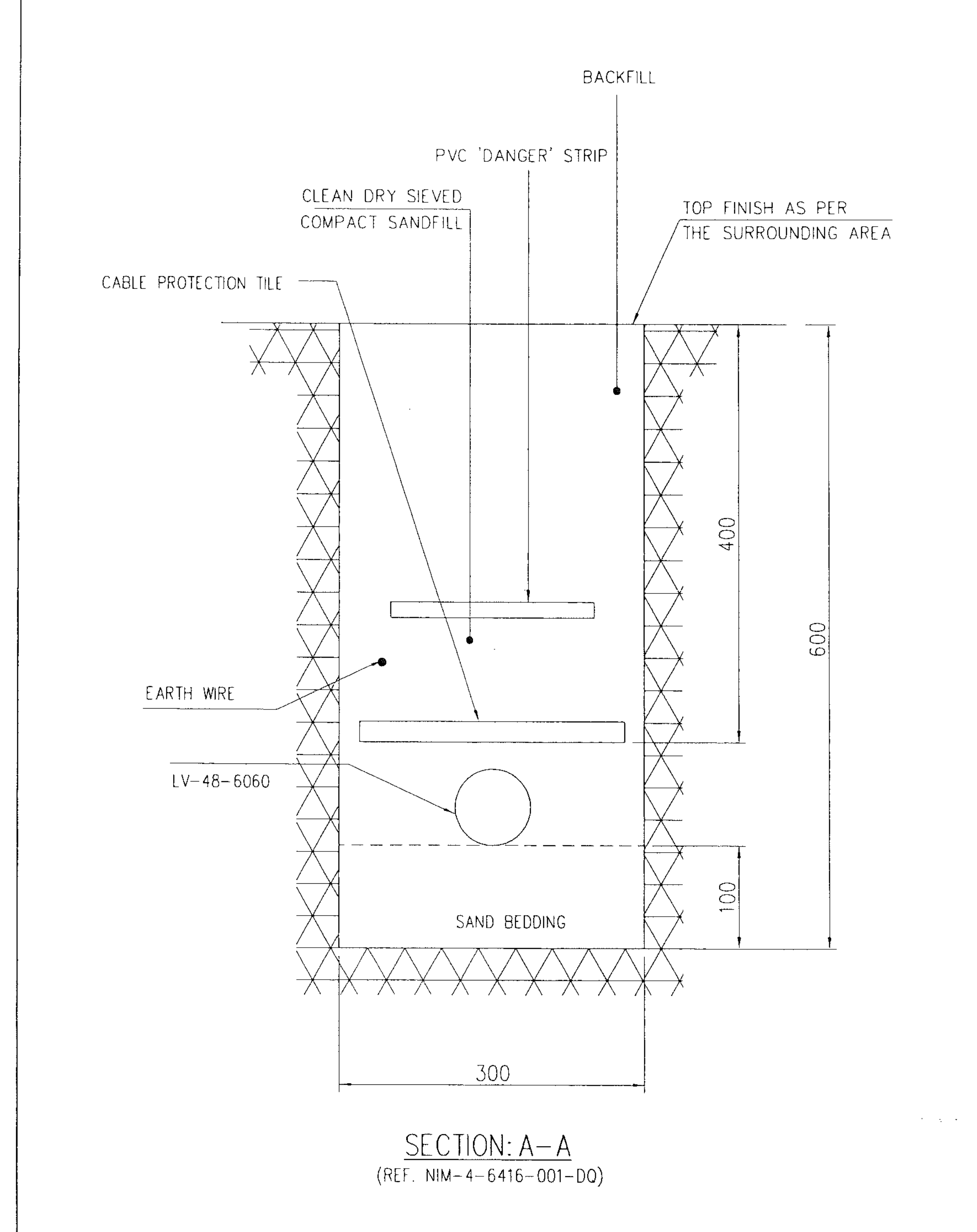
شركة تنمية نفط عمان
Petroleum Development Oman

DRWG.	AREA CODE	ENG. SECT.	SERIAL NUMBER	SHEET	PROJ CODE	DWG. SIZE	REV.
NO	NIM	4	6420	001	DQ	1	A

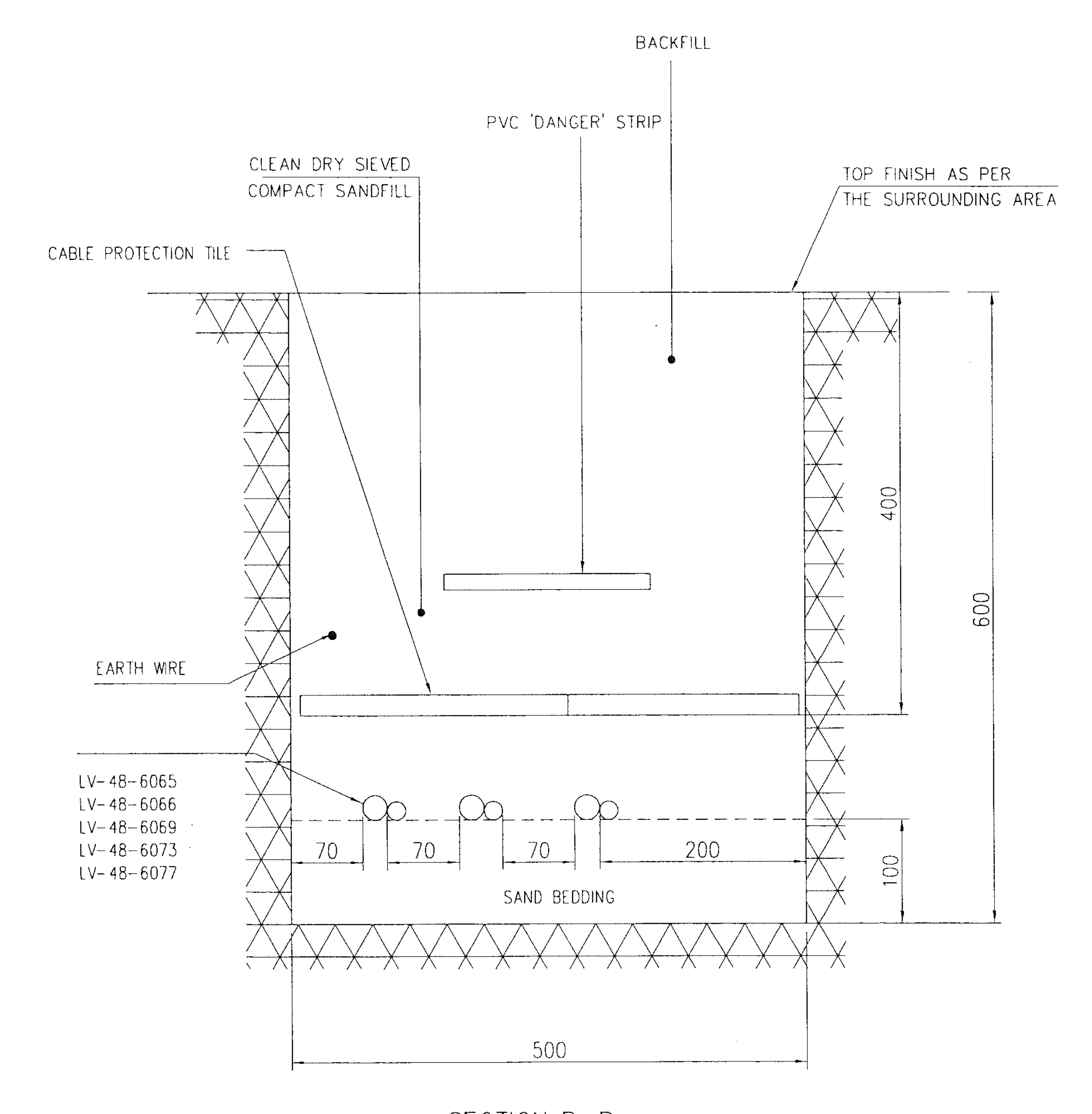

UTM NORTH
N
NIMR SLUDGE PIT
SCRAP DUMP
GARBAGE DUMP
FOR DETAILS OF THIS AREA REF. DRG. NIM-4-6416-003-DQ
ELEC. TRENCH 300 (W) x 600 (D)
SEWAGE TREATMENT PLANT
SEWAGE PITS
FOR DETAILS OF THIS AREA REF. DRG. NIM-4-6416-002-DQ
2051500 m
2051000 m
2050000 m
381500 m
379500 m
NIMR PRODUCTION STATION
POWER STATION
PRODUCTION SUPPLY YARD
SUPPLY YARD
POLICE CAMP
TRUCKOMAN
OMAN GAS COMPANY
MOSQUE
CONTRACTOR'S MOTEL (TAWOOS)
CONTRACTOR'S MOTEL (CATERING & SUPPLIES)
CONTRACTOR CAMPS
CONTRACTORS CAMP
POTABLE WATER
TO SIMSIM
TO KARIM WEST
TO RIMA, BAHJA
AIRSTRIP
PROPOSED NIMR-SIMSIM 33KV OHL
PROPOSED OHL SPURLINE-1
1X16" SIM SIM-WARAD-NIMR
1 x 20" GRE WARAD-NIMR
24" SAIH NIHAYDA-SAHLAH GAS PIPELINE
1 x 8" ZAHRA-NIMR RD
SCOPE OF PROJECT
WBS# C.OM.NIM.IN.09.011
APPROVED FOR CONSTRUCTION
THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJECT WBS# C.OM.NIM.IN.09.011
A | MAY '11 | AB | APPROVED FOR CONSTRUCTION | IN.09.011 | OSE/28N
0 | SEP '10 | Khalid | KD | RVJ | ISSUED FOR COMMENTS | IN.09.011 | OSE/28N
REV | DATE | DRAWN BY | TEAML | J.ENG | CHECKED | DESCRIPTION | B.I. NO | PROJ. ENG. | SIGNATURE | P D O APPROVAL
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP-00405
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE : NONE
CAD DRAWING
AREA : NIMR
SUB AREA : FIELD FACILITY
NO. 05
DRWG. TYPE : LAYOUT
DESCRIPTION : OVERALL CABLE TRENCH LAYOUT
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO | NIM | 4 | 6416 | 001 | DQ | 1 | A
1. LV CABLE TRENCH 300mm (W) x 600mm (D) SHALL BE CONSTRUCTED FROM SEWAGE TREATMENT PLANT TO SLUDGE PIT AREA DB.
NOTES
DRAWING CONTROL INDEX | NIM | 1 | 2635 | 400 | DQ | 4
REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE


PLANT NORTH
N
EXISTING TRACK
ROAD
OLD LAGOON
ROAD
EXISTING TRACK
FOR CONTINUATION REF. DRG. NIM-4-6416-003-DQ
EXISTING TRACK
ROAD
2 x 100mm D/A PIPE SLEEVE
ROAD
OLD LAGOON
New bowser point
12.8m ØTREATED WATER TANK
Packaged Equipment 1
SDB
OLD STP
OLD STP
OLD LAGOON
ELEC. TRENCH 300 (W) x 600 (D)
OLD LAGOON
CONTROL ROOM
EQUALIZATION TANK
TREAT WATER TANK
ADDITIONAL SCOPE NEW MDB
EXISTING FEEDER PILLAR SUBSTATION NO. 2
48-JB-001
2 x 100mm DIA PIPE SLEEVE
RECEIVING SUMP4x4x3.6mH
EXISTING TRACK
SITE LAYOUT
NEW LV CABLE TRENCH
SR NO
ADDITIONAL WORK LEGEND
1 ADDITIONAL SCOPE MDB
2 BOWSER POINT PUMP (1)
3 BOWSER POINT PUMP (2)
4 LIFT STATION PUMP
5 LIFT STATION OVER FLOW PUMP
6 IRRIGATION PUMP
7 BLOWER
LV CABLE LAID IN UNDERGROUND TRUNCHES
APPROVED FOR CONSTRUCTION
SCOPE OF PROJECT WBS# C.OM.NIM.IN.09.011
THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJECT WBS# C.OM.NIM.IN.09.011
A MAY '11 AB APPROVED FOR CONSTRUCTION IN.09.011 OSE/28N
0 SEP '10 Khalid KD AWT ISSUED FOR COMMENTS IN.09.011 OSE/28N
REV DATE DRAWN BY CHECKED BY APPROVED BY DESCRIPTION WBS NO PROJ ENG SIGNATURE P D O APPROVAL
WorleyParsons - Arabian Industries (JV)
CONTRACT NO : C31/0606 PROJ NO : PAIP-00405
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE : NTS CAD DRAWING
AREA : SOUTH OMAN NIMR
SUB AREA : CONTRACTOR'S CAMP NIMR
DRWG TYPE : LAYOUT
DESCRIPTION : CABLE TRENCH LAYOUT SWTP
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO NIM 4 6416 002 DQ 3 A
SINGLE LINE DIAGRAM FOR LCP-01 NIM 4 2801 001 DQ 1
CABLE SCHEDULE NIM 4 6413 1/3 DQ 3
DRAWING CONTROL INDEX NIM 1 2635 400 DQ 4
REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
1. ALL DIMENSIONS ARE IN MILLIMETRES, ELEVATIONS & CO-ORDINATES ARE IN METRES.
NOTES


PLANT NORTH
UTM NORTH
56°49'54"
S.W (MAY/JUNE)
N.W (MARCH/APRIL)
PREVAILING WIND
S.E (REST OF THE YEAR)
N
LEGEND
10M POLE MOUNTED FLOOD LIGHT FIXTURE WITH 250W HPSV LAMP (2 FITTINGS)
DISTRIBUTION BOARD
DB
REMOTE CONTROL UNIT
M
MOTOR
ELECTRICAL TRENCH
EQUIPMENT DATA
EQPT. TAG NO. | DESCRIPTION
A-48307 | SLUDGE COLLECTION PIT
A-48308 | SLUDGE COLLECTION PIT
A-48305 | PIG LAUNCHER
A-48309 | OXYGEN SCAVENGER SKID
P-48357 | SLUDGE OIL TRANSFER PUMP
P-48358 | SLUDGE OIL TRANSFER PUMP
P-48359 | OXYGEN SCAVANGER DOSING PUMP
P-48360 | OXYGEN SCAVANGER DOSING PUMP
DRAWING LIMIT N 3.000
DRAWING LIMIT W 3.000
DRAWING LIMIT E 181.000
DRAWING LIMIT S 199.000
E 0.000
N 0.000
S 0.000
S 5.000
ESCAPE GATE
S 27.000
S 33.000
SUNSHADE
PERSONNEL GATE
S 100.800
MAIN GATE
S 50.000
S 100.000
S 150.000
E 50.000
E 100.000
E 150.000
2 x 100mm D/A PIPE SLEEVE
2 x 100mm DIA PIPE SLEEVE
3x100mm DIA PIPE SLEEVE
FLP-1
FLP-2
FLP-3
FLP-4
FLP-5
FLP-6
FLP-7
FLP-8
BENCH MARK
WINDSOCK
RTU
DB
℄ OF ROAD
UG AC
6" PIPELINE
ACCESS BARRIER
A-48305
LAUNCHER
GR. EL. 100.000
A-48309
P-48359
P-48360
MONORAIL 1.5 Ton CAPACITY
BOTTOM OF BEAM
EL.104.000
HARD STAND
P-48357
SLOPE 1:40
TOWARDS SUMP
A-48307
SLUDGE COLLECTION PIT
SUMP
10" - GRE INTERCONNECTION LINE
VALVE-PIT
P-48358
A-48308
SLUDGE COLLECTION PIT
SLOPE 1:40
MIXING PAD
STORAGE PIT
FUTURE
300mm WIDE x 600mm DEEP ELEC. TRENCH (TYP.)
FOR FURTHER ROUTING REF.
DRG.NIM-4-6416-001 & 002-DQ
SCOPE OF PROJECT
WBS# C.OM. NIM.IN.09.011
APPROVED FOR CONSTRUCTION
THIS COMPLETE DRAWING IS NEW AND PREPARED FOR PROJECT WBS# C.OM. NIM.IN.09.011
A | MAY '11 | AB | APPROVED FOR CONSTRUCTION | IN.09.011 | OSE/28N
0 | SEP '10 | Khalid | KD | PVI | ISSUED FOR COMMENTS | IN.09.011 | OSE/28N
REV | DATE | DRAWN BY | CHECKED BY | APPROVED BY | DESCRIPTION | WBS NO. | PROJ. ENG. | SIGNATURE
P D O APPROVAL
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO : C31/0606
PROJ. NO : PAIP-00405
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE : 1:500
CAD DRAWING
AREA : NIMR
SUB AREA : SLUDGE PIT FACILITY
NO. 05
DRWG. TYPE : LAYOUT
DESCRIPTION : CABLE TRENCH LAYOUT
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO | AREA CODE | ENG SECT | SERIAL NUMBER | SHEET | PROJ CODE | DWG SIZE | REV.
NIM | 4 | 6416 | 003 | DQ | 1 | A
SINGLE LINE DIAGRAM - DB | NIM | 4 | 6411 | 001 | DQ | 1
CABLE SCHEDULE | NIM | 4 | 6413 | 1/3 | DQ | 3
DRAWING CONTROL INDEX | NIM | 1 | 2635 | 400 | DQ | 4
DESCRIPTION
DRAWING NUMBER
REFERENCE DRAWINGS
REV | DATE | APPROVED BY | DESCRIPTION | B.LNO. | PROJ.ENG. | SPEC.ENG.
PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
1. OUTDOOR LIGHTING CABLE SHALL BE LAID IN THE FENCE EARTHING TRENCH.
NOTES



SECTION: A-A
(REF. NIM-4-6416-001-DO)



SECTION: B-B
(REF. NIM-4-6416-003-DO)

APPROVED FOR CONSTRUCTION

THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJECT WBS# C.OM.NIM.IN.09.011

REV	DATE	DRAWN BY	CHECKED TEAM L	CHECKED L.ENG.	DESCRIPTION	B.I. NO	PROJ. ENG	SIGNATURE
A	MAY '11	AB			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	SEP '10	Khalid	KD	PVT	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO. C31/0606 | PROJ. NO. PAIP-00405

DESCRIPTION	AREA	SERIAL	SH.	P	REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO	PROJ.ENG.	SPEC.ENG.
DRAWING CONTROL INDEX	NIM 1	2635	400	DO 4	-						

DRAWING NUMBER

PDO APPROVAL

NOTES

REFERENCE DRAWINGS

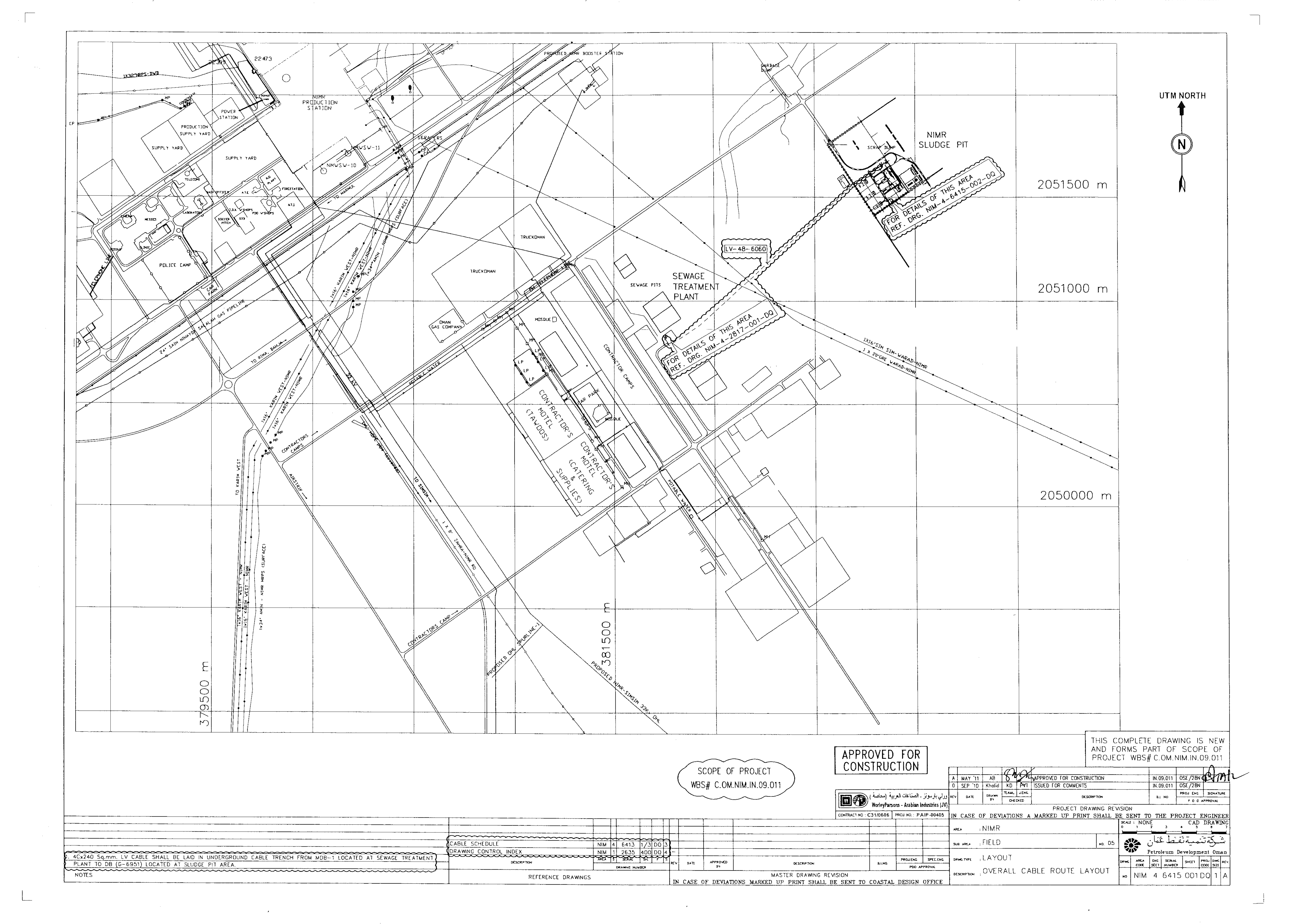
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

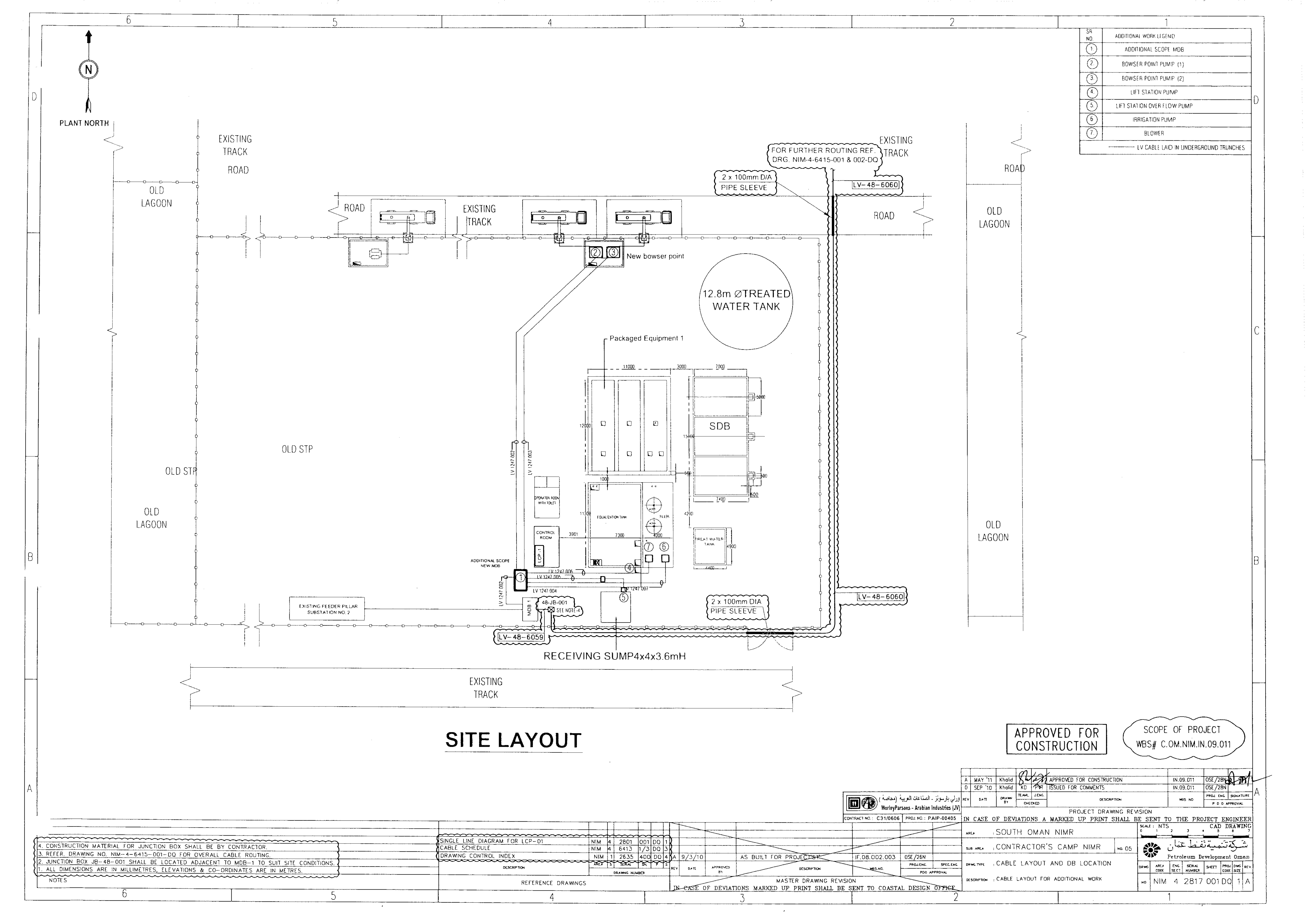
AREA : NIMR
SUB AREA : SLUDGE PIT FACILITIES NO. 05
DRWG TYPE : CABLE TRENCH SECTION DETAILS
DESCRIPTION : SECTION A-A & B-B

SCALE : 1:3
CAD DRAWING

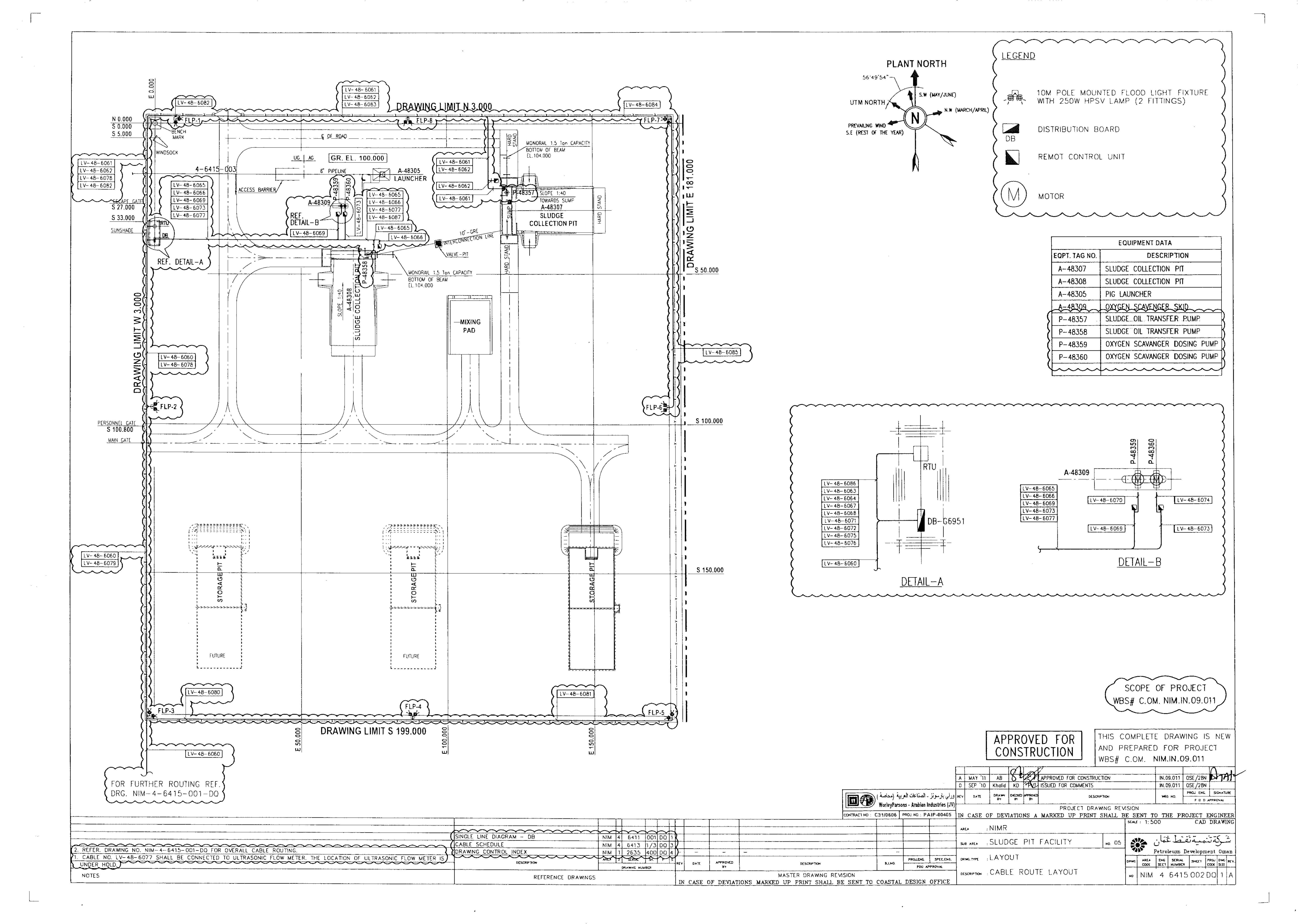
شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	4	6417	001	DO	1	A


UTM NORTH
N
NIMR SLUDGE PIT
FOR DETAILS OF THIS AREA REF. DRG. NIM-4-6415-002-DQ
2051500 m
LV-48-6060
SEWAGE TREATMENT PLANT
SEWAGE PITS
2051000 m
FOR DETAILS OF THIS AREA REF. DRG. NIM-4-2817-001-DQ
2050000 m
NIMR PRODUCTION STATION
POWER STATION
PRODUCTION SUPPLY YARD
SUPPLY YARD
POLICE CAMP
TRUCKOMAN
OMAN GAS COMPANY
MOSQUE
CONTRACTOR'S MOTEL (TAWOOS)
CONTRACTOR'S MOTEL (CATERING & SUPPLIES)
CONTRACTOR CAMPS
CAR PARK
CONTRACTORS CAMPS
CONTRACTORS CAMP
PROPOSED NIMR BOOSTER STATION
24" SAIH NIHAYDA SALALAH GAS PIPELINE
TO RIMA, BAHJA
TO SIMSIM
TO KARIM WEST
PROPOSED NIMR-SIMSIM 33KV OHL
PROPOSED OHL SPURLINE-1
381500 m
379500 m
SCOPE OF PROJECT
WBS# C.OM.NIM.IN.09.011
APPROVED FOR CONSTRUCTION
THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJECT WBS# C.OM.NIM.IN.09.011
A | MAY '11 | AB | APPROVED FOR CONSTRUCTION | IN.09.011 | OSE/2BN
0 | SEP '10 | Khalid | KD | PVT | ISSUED FOR COMMENTS | IN.09.011 | OSE/2BN
REV | DATE | DRAWN BY | TEAM L. | L.ENG. | CHECKED | DESCRIPTION | B.I. NO | PROJ ENG | SIGNATURE | P D O APPROVAL
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO : C31/0606 | PROJ. NO. : PAIP-00405
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE : NONE
CAD DRAWING
AREA : NIMR
SUB AREA : FIELD
NO. 05
DRWG. TYPE : LAYOUT
DESCRIPTION : OVERALL CABLE ROUTE LAYOUT
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO | AREA CODE | ENG SECT | SERIAL NUMBER | SHEET | PROJ CODE | DWG SIZE | REV.
NIM | 4 | 6415 | 001 | DQ | 1 | A
1. 4Cx240 Sq.mm. LV CABLE SHALL BE LAID IN UNDERGROUND CABLE TRENCH FROM MDB-1 LOCATED AT SEWAGE TREATMENT PLANT TO DB (G-6951) LOCATED AT SLUDGE PIT AREA.
NOTES
CABLE SCHEDULE | NIM | 4 | 6413 | 1/3 | DQ | 3
DRAWING CONTROL INDEX | NIM | 1 | 2635 | 400 | DQ | 4
DESCRIPTION | DRAWING NUMBER
REFERENCE DRAWINGS
REV | DATE | APPROVED BY | DESCRIPTION | B.I.NO. | PROJ.ENG | SPEC.ENG | PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE



PLANT NORTH
N
SR NO.	ADDITIONAL WORK LEGEND
1	ADDITIONAL SCOPE MDB
2	BOWSER POINT PUMP (1)
3	BOWSER POINT PUMP (2)
4	LIFT STATION PUMP
5	LIFT STATION OVER FLOW PUMP
6	IRRIGATION PUMP
7	BLOWER
LV CABLE LAID IN UNDERGROUND TRUNCHES
EXISTING TRACK
ROAD
OLD LAGOON
EXISTING TRACK
FOR FURTHER ROUTING REF. DRG. NIM-4-6415-001 & 002-DQ
2 x 100mm D/A PIPE SLEEVE
LV-48-6060
New bowser point
12.8m ØTREATED WATER TANK
Packaged Equipment 1
SDB
OLD STP
CONTROL ROOM
LCP-1
ADDITIONAL SCOPE NEW MDB
EXISTING FEEDER PILLAR SUBSTATION NO.2
MDB 1
48-JB-001
SEE NOTE-4
LV-48-6059
2 x 100mm DIA PIPE SLEEVE
RECEIVING SUMP4x4x3.6mH
SITE LAYOUT
APPROVED FOR CONSTRUCTION
SCOPE OF PROJECT WBS# C.OM.NIM.IN.09.011
4. CONSTRUCTION MATERIAL FOR JUNCTION BOX SHALL BE BY CONTRACTOR.
3. REFER. DRAWING NO. NIM-4-6415-001-DQ FOR OVERALL CABLE ROUTING.
2. JUNCTION BOX JB-48-001 SHALL BE LOCATED ADJACENT TO MDB-1 TO SUIT SITE CONDITIONS.
1. ALL DIMENSIONS ARE IN MILLIMETRES, ELEVATIONS & CO-ORDINATES ARE IN METRES.
NOTES
SINGLE LINE DIAGRAM FOR LCP-01 NIM 4 2801 001 DQ 1
CABLE SCHEDULE NIM 4 6413 1/3 DQ 3
DRAWING CONTROL INDEX NIM 1 2635 400 DQ 4
REFERENCE DRAWINGS
A 9/3/10 AS BUILT FOR PROJECTS IF.08.002.003 OSE/26N
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
A MAY '11 Khalid APPROVED FOR CONSTRUCTION IN.09.011 OSE/28N
0 SEP '10 Khalid KD PM ISSUED FOR COMMENTS IN.09.011 OSE/28N
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP-00405
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
AREA : SOUTH OMAN NIMR
SUB AREA : CONTRACTOR'S CAMP NIMR NO. 05
DRWG. TYPE : CABLE LAYOUT AND DB LOCATION
DESCRIPTION : CABLE LAYOUT FOR ADDITIONAL WORK
SCALE : NTS CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
NO NIM 4 2817 001 DQ 1 A



EQUIPMENT DATA	
EQPT. TAG NO.	DESCRIPTION
A-48307	SLUDGE COLLECTION PIT
A-48308	SLUDGE COLLECTION PIT
A-48305	PIG LAUNCHER
A-48309	OXYGEN SCAVENGER SKID
P-48357	SLUDGE OIL TRANSFER PUMP
P-48358	SLUDGE OIL TRANSFER PUMP
P-48359	OXYGEN SCAVANGER DOSING PUMP
P-48360	OXYGEN SCAVANGER DOSING PUMP

APPROVED FOR CONSTRUCTION

THIS COMPLETE DRAWING IS NEW AND PREPARED FOR PROJECT WBS# C.OM. NIM.IN.09.011

REV	DATE	DRAWN BY	CHECKED BY	APPROVED BY	DESCRIPTION	WBS NO.	PROJ. ENG.	SIGNATURE
A	MAY '11	AB			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	SEP '10	Khalid	KD	PVI	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

WorleyParsons - Arabian Industries (JV)
CONTRACT NO: C31/0606 PROJ NO: PAIP-00405

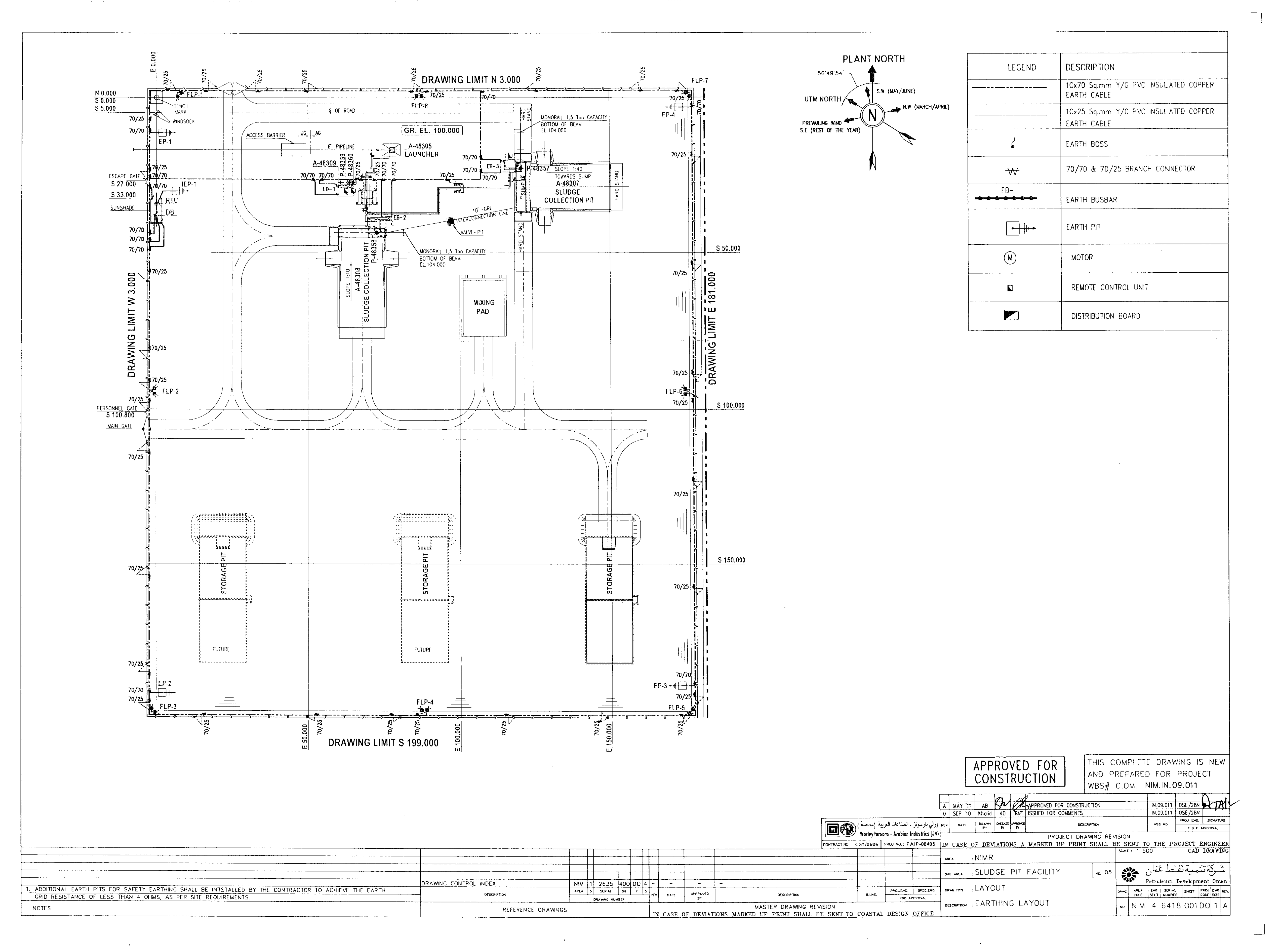
AREA: NIMR
SUB AREA: SLUDGE PIT FACILITY NO. 05
DRWG. TYPE: LAYOUT
DESCRIPTION: CABLE ROUTE LAYOUT
SCALE: 1:500 CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO: NIM 4 6415 002 DQ 1 A

NOTES
1. CABLE NO. LV-48-6077 SHALL BE CONNECTED TO ULTRASONIC FLOW METER. THE LOCATION OF ULTRASONIC FLOW METER IS UNDER HOLD.
2. REFER. DRAWING NO. NIM-4-6415-001-DQ FOR OVERALL CABLE ROUTING.

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
SINGLE LINE DIAGRAM - DB	NIM	4	6411	001	DQ	1
CABLE SCHEDULE	NIM	4	6413	1/3	DQ	3
DRAWING CONTROL INDEX	NIM	1	2635	400	DQ	4

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE


DRAWING LIMIT N 3.000
DRAWING LIMIT W 3.000
DRAWING LIMIT E 181.000
DRAWING LIMIT S 199.000
E 0.000
E 50.000
E 100.000
E 150.000
N 0.000
S 0.000
S 5.000
S 27.000
S 33.000
S 50.000
S 100.000
S 100.800
S 150.000
FLP-1
FLP-2
FLP-3
FLP-4
FLP-5
FLP-6
FLP-7
FLP-8
EP-1
EP-2
EP-3
EP-4
IEP-1
EB-1
EB-2
EB-3
BENCH MARK
WINDSOCK
ESCAPE GATE
SUNSHADE
RTU
DB
PERSONNEL GATE
MAIN GATE
ACCESS BARRIER
UG
AG
6" PIPELINE
GR. EL. 100.000
A-48305
LAUNCHER
A-48309
P-48359
P-48360
P-48357
SLOPE 1:40 TOWARDS SUMP
A-48307
SLUDGE COLLECTION PIT
SUMP
HARD STAND
MONORAIL 1.5 Ton CAPACITY BOTTOM OF BEAM EL.104.000
10" - GRE INTERCONNECTION LINE
VALVE - PIT
A-48308
SLUDGE COLLECTION PIT
P-48358
SLOPE 1:40
MIXING PAD
STORAGE PIT
FUTURE
70/70
70/25
PLANT NORTH
56°49'54"
UTM NORTH
S.W (MAY/JUNE)
N.W (MARCH/APRIL)
PREVAILING WIND S.E (REST OF THE YEAR)
N
LEGEND
DESCRIPTION
1Cx70 Sq.mm Y/G PVC INSULATED COPPER EARTH CABLE
1Cx25 Sq.mm Y/G PVC INSULATED COPPER EARTH CABLE
EARTH BOSS
70/70 & 70/25 BRANCH CONNECTOR
EB-
EARTH BUSBAR
EARTH PIT
MOTOR
REMOTE CONTROL UNIT
DISTRIBUTION BOARD
APPROVED FOR CONSTRUCTION
THIS COMPLETE DRAWING IS NEW AND PREPARED FOR PROJECT WBS# C.OM. NIM.IN.09.011
A | MAY '11 | AB | | | APPROVED FOR CONSTRUCTION | IN.09.011 | OSE/28N
0 | SEP '10 | Khalid | KD | AVT | ISSUED FOR COMMENTS | IN.09.011 | OSE/28N
REV | DATE | DRAWN BY | CHECKED BY | APPROVED BY | DESCRIPTION | WBS NO. | PROJ. ENG. | SIGNATURE
P D O APPROVAL
WorleyParsons - Arabian Industries (JV)
CONTRACT NO : C31/0606
PROJ NO : PAIP-00405
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE : 1:500
CAD DRAWING
AREA : NIMR
SUB AREA : SLUDGE PIT FACILITY
NO. 05
DRWG. TYPE : LAYOUT
DESCRIPTION : EARTHING LAYOUT
شركة تنمية نفط عمان
Petroleum Development Oman
AREA CODE | ENG SECT | SERIAL NUMBER | SHEET | PROJ CODE | DWG SIZE | REV
NO. NIM 4 6418 001 D0 1 A
DRAWING CONTROL INDEX | NIM | 1 | 2635 | 400 | 00 | 4
DESCRIPTION | AREA | S | SERIAL | SH | P | S
DRAWING NUMBER
REFERENCE DRAWINGS
REV | DATE | APPROVED BY | DESCRIPTION | B.I.NO. | PROJ.ENG. | SPEC.ENG.
PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
1. ADDITIONAL EARTH PITS FOR SAFETY EARTHING SHALL BE INSTALLED BY THE CONTRACTOR TO ACHIEVE THE EARTH GRID RESISTANCE OF LESS THAN 4 OHMS, AS PER SITE REQUIREMENTS.
NOTES

FLP-2 FLP-3 FLP-4 FLP-5

DISTRBUTION BOARD FEEDER-11/1
REF. NIM-4-6411-001-DQ

4Cx10 Sq.mm / LV-48-6078
4Cx10 Sq.mm / LV-48-6079
4Cx10 Sq.mm / LV-48-6080
4Cx10 Sq.mm / LV-48-6081

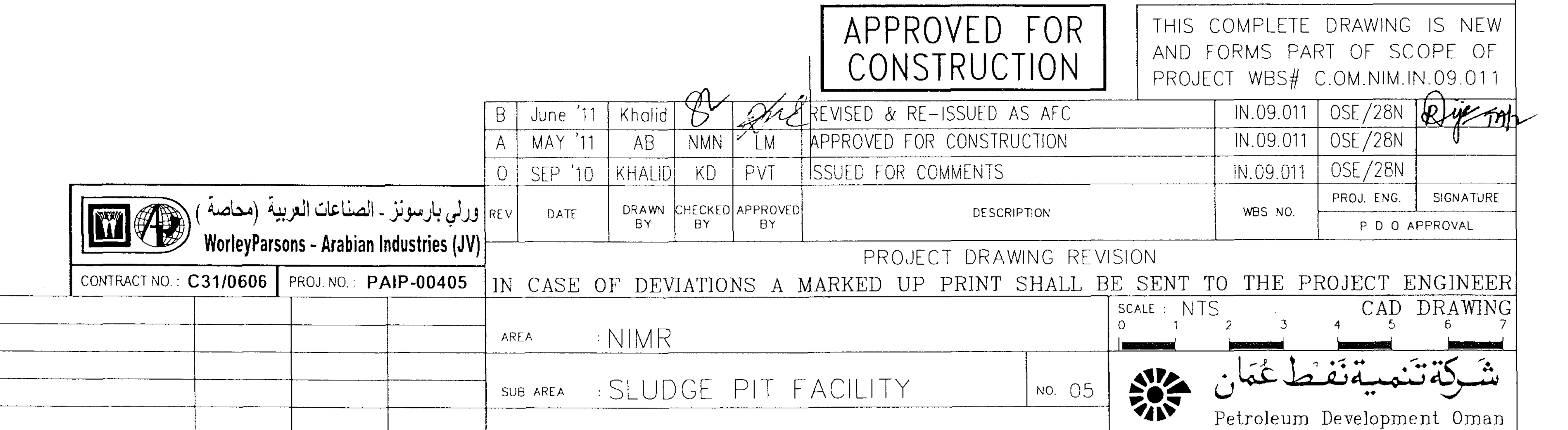
FLP-1 FLP-8 FLP-7 FLP-6

DISTRBUTION BOARD FEEDER-11/2
REF. NIM-4-6411-001-DQ

4Cx10 Sq.mm / LV-48-6082
4Cx10 Sq.mm / LV-48-6083
4Cx10 Sq.mm / LV-48-6084
4Cx10 Sq.mm / LV-48-6085

B

ITEM	LEGEND	DESCRIPTION
1		10M POLE MOUNTED FLOOD LIGHT FIXTURE WITH 250W HPSV LAMP (2 FITTINGS) TYPE: THORN SONPACK 250W HPS. T.



APPROVED FOR CONSTRUCTION

THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJECT WBS# C.OM.NIM.IN.09.011

REV	DATE	DRAWN BY	CHECKED BY	APPROVED BY	DESCRIPTION	WBS NO.	PROJ. ENG.	SIGNATURE
B	June '11	Khalid			REVISED & RE-ISSUED AS AFC	IN.09.011	OSE/28N	
A	MAY '11	AB	NMN	LM	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/28N	
0	SEP '10	KHALID	KD	PVT	ISSUED FOR COMMENTS	IN.09.011	OSE/28N	

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP-00405

AREA : NIMR
SUB AREA : SLUDGE PIT FACILITY — NO. 05
DRWG. TYPE : SCHEMATIC DIAGRAM
DESCRIPTION : FLOOD LIGHT POLES

SCALE : NTS — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	4	6412	001	DQ	3	B

3. SLD DB NIM-4-6411-001-DQ
2. CABLE SCHEDULE NIM-4-6413-1/3-DQ
1. DRAWING CONTROL INDEX NIM-1-2635-400-DQ

NOTES/REFERENCE DRAWINGS

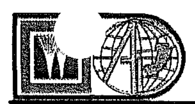
REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
					PDO APPROVAL	

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

Control & Automation Drawings

PAIP00405- Nimr Sludge Pit Up gradation.



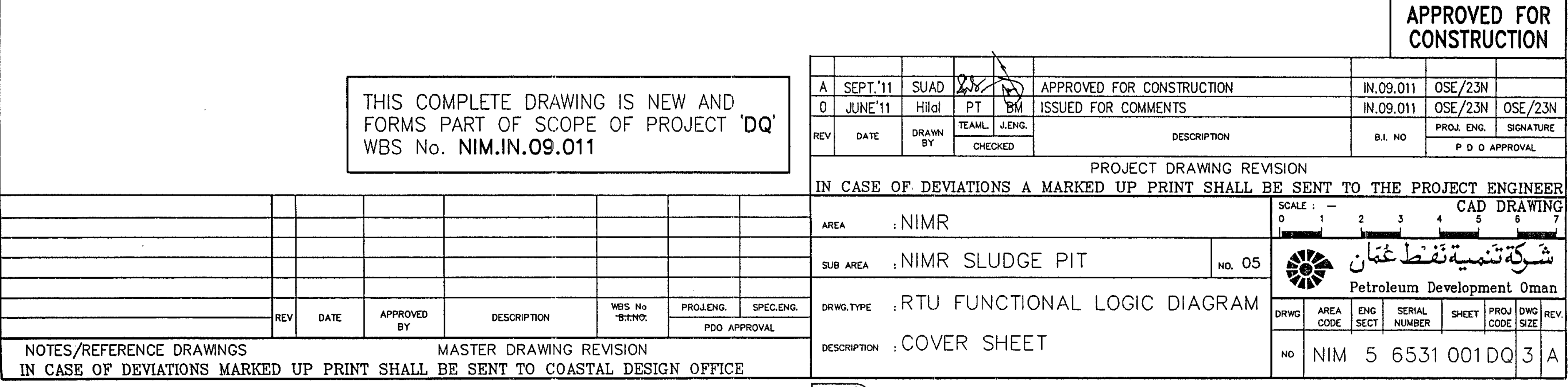
Client : Petroleum Development Oman LLC (PDO)

Job No. : PAIP00405 **Phase:** AFC

Job Title : Nimr Sludge Pits System upgrade - FED & DD

Discipline Code: Control & Automation				**Current Revision Detail**			**Earlier Revision Detail**		
Item#	**Document No**	**Size**	**Description:**	**Rev#**	**Date:**	**Status:**	**Rev#**	**Date:**	**Sta**
1	NIM-5-4745-001-DQ	A3	Instrument loop Diagram (37 Sheets)	A	20-SEP-11	AFC	0	31-MAY-11	IF
2	NIM-5-5588-DQ	A3	SGS Functional Logic Diagram (9 Sheets)	A	20-SEP-11	AFC	0	08-JUN-11	IF
3	NIM-5-6079-DQ	A3	DCS Functional Logic Diagram (6 Sheets)	A	20-SEP-11	AFC	0	08-JUN-11	IF
4	NIM-5-6531-DQ	A3	Functional Logic Diagram-Sludge Pit (15 Sheets)	A	20-SEP-11	AFC	0	08-JUN-11	IF

FUNCTIONAL LOGIC DIAGRAMS
NIMR SLUDGE PIT



SHT.No.	DESCRIPTION	REV.0	REV.A	REV.B	V.C		
001	CO..R SHEET	JUNE'11	SEPT.'11				
002	REVISION/INDEX SHEET	JUNE'11	SEPT.'11				
003							
004							
005							
006							
007	SYMBOLS & GENERAL NOTES	JUNE'11	SEPT.'11				
008							
009							
010	48-UZ-2656/58: SLUDGE OIL TRANSFER PUMPS P-48357/58	JUNE'11	SEPT.'11				
011	48-UZ-2656/58: SLUDGE OIL TRANSFER PUMPS P-48357/58	JUNE'11	SEPT.'11				
012	48-UZ-2656/58: SLUDGE OIL TRANSFER PUMPS P-48357/58	JUNE'11	SEPT.'11				
013	48-UZ-2656/58: SLUDGE OIL TRANSFER PUMPS P-48357/58	JUNE'11	SEPT.'11				
014	48-UZ-2656/58: SLUDGE OIL TRANSFER PUMPS P-48357/58	JUNE'11	SEPT.'11				
015	48-UZ-2656/58: SLUDGE OIL TRANSFER PUMPS P-48357/58	JUNE'11	SEPT.'11				
016	48-UZ-2656/58: SLUDGE OIL TRANSFER PUMPS P-48357/58	JUNE'11	SEPT.'11				
017	SPARE						
018	48-UZ-2657: OXYGEN SCAVANGER DOSING PUMPS P-48359/60	JUNE'11	SEPT.'11				
019	48-UZ-2657: OXYGEN SCAVANGER DOSING PUMPS P-48359/60	JUNE'11	SEPT.'11				
020	48-UZ-2657: OXYGEN SCAVANGER DOSING PUMPS P-48359/60	JUNE'11	SEPT.'11				
021	48-UZ-2657: OXYGEN SCAVANGER DOSING PUMPS P-48359/60	JUNE'11	SEPT.'11				
022	48-UZ-2657: OXYGEN SCAVANGER DOSING PUMPS P-48359/60	JUNE'11	SEPT.'11				
023							
024							
025							
026							
027							
028							
029							
030							
031							
032							
033							
034							
035							
036							

SHT.No.	DESCRIPTI	REV.0	REV.A	REV.B	REV.C		
037							
038							
039							
040							
041							
042							
043							
044							
045							
046							
047							
048							
049							
050							
051							
052							
053							
054							
055							
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059							
060							
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062							
063							
064							
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066							
067							
068							
069							
070							
071							
072							

REV	DATE	APPROVED BY	DESCRIPTION	WBS No ~~B.I.NO.~~	PROJ.ENG.	SPEC.ENG.
					PDO APPROVAL	

NOTES/REFERENCE DRAWINGS — MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : RTU FUNCTIONAL LOGIC DIAGRAM

DESCRIPTION : REVISION/INDEX SHEET

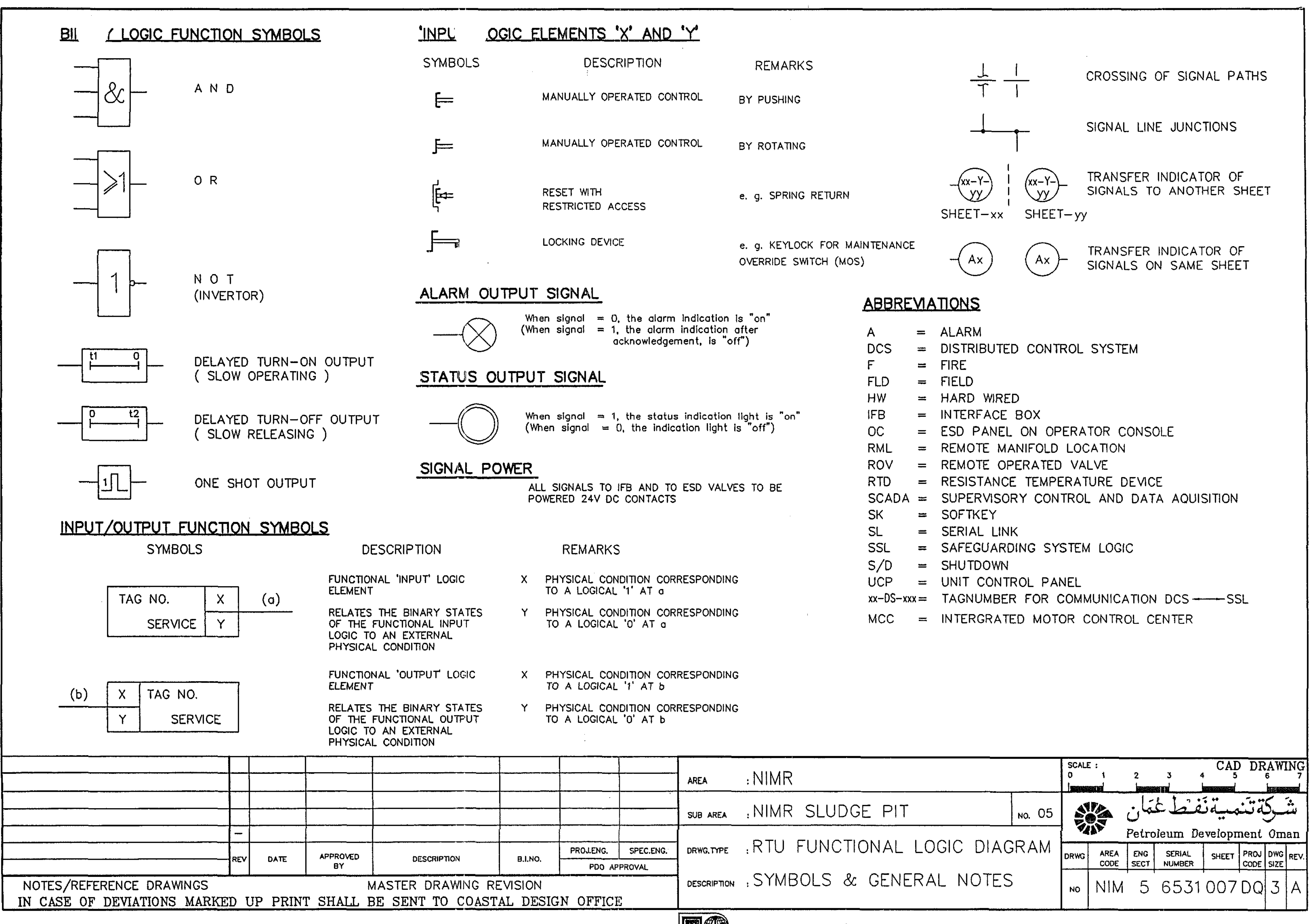
SCALE : 0 1 2 3 4 5 6 7 — CAD DRAWING

شركة تنمية نفط عمان

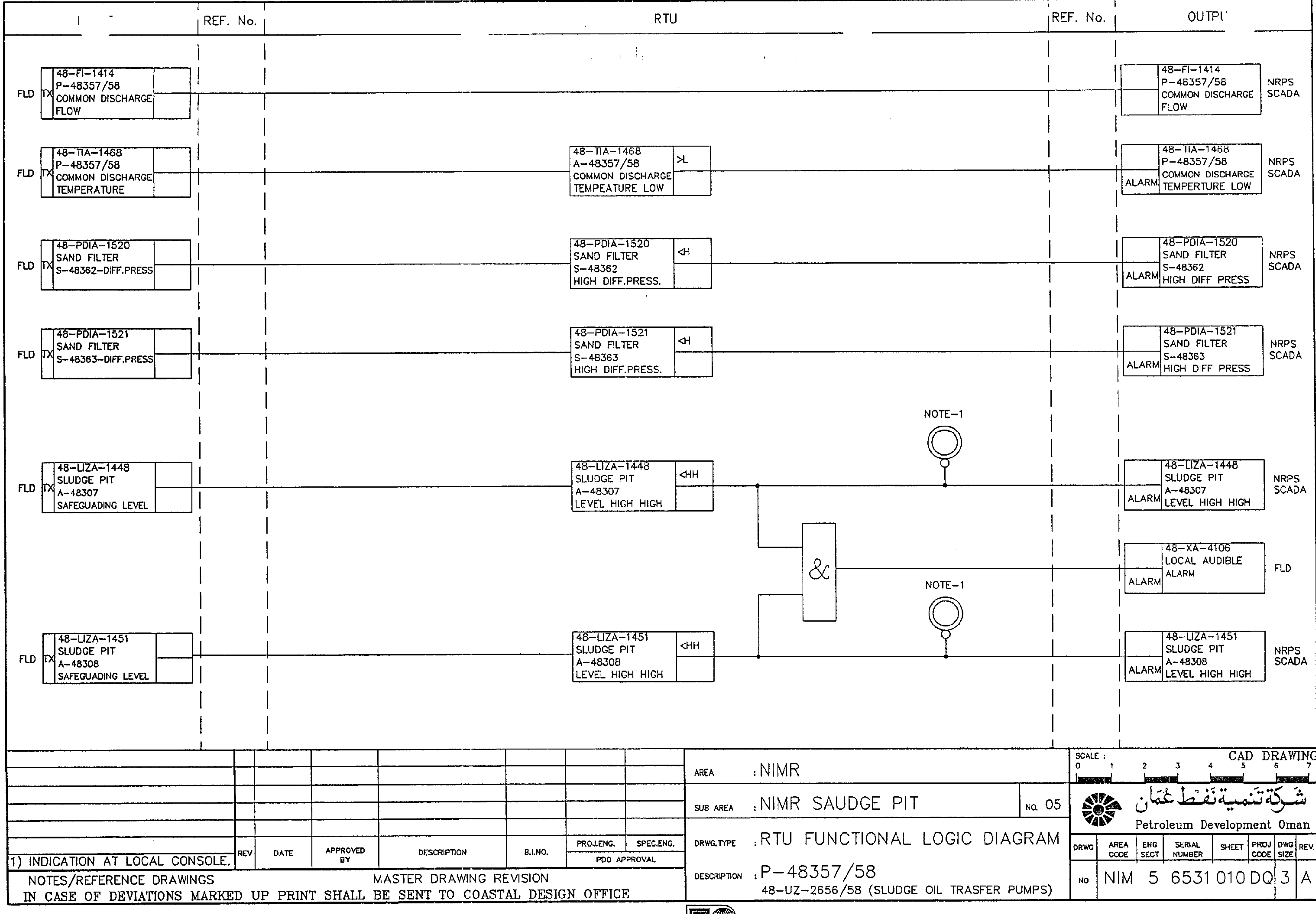
Petroleum Development Oman

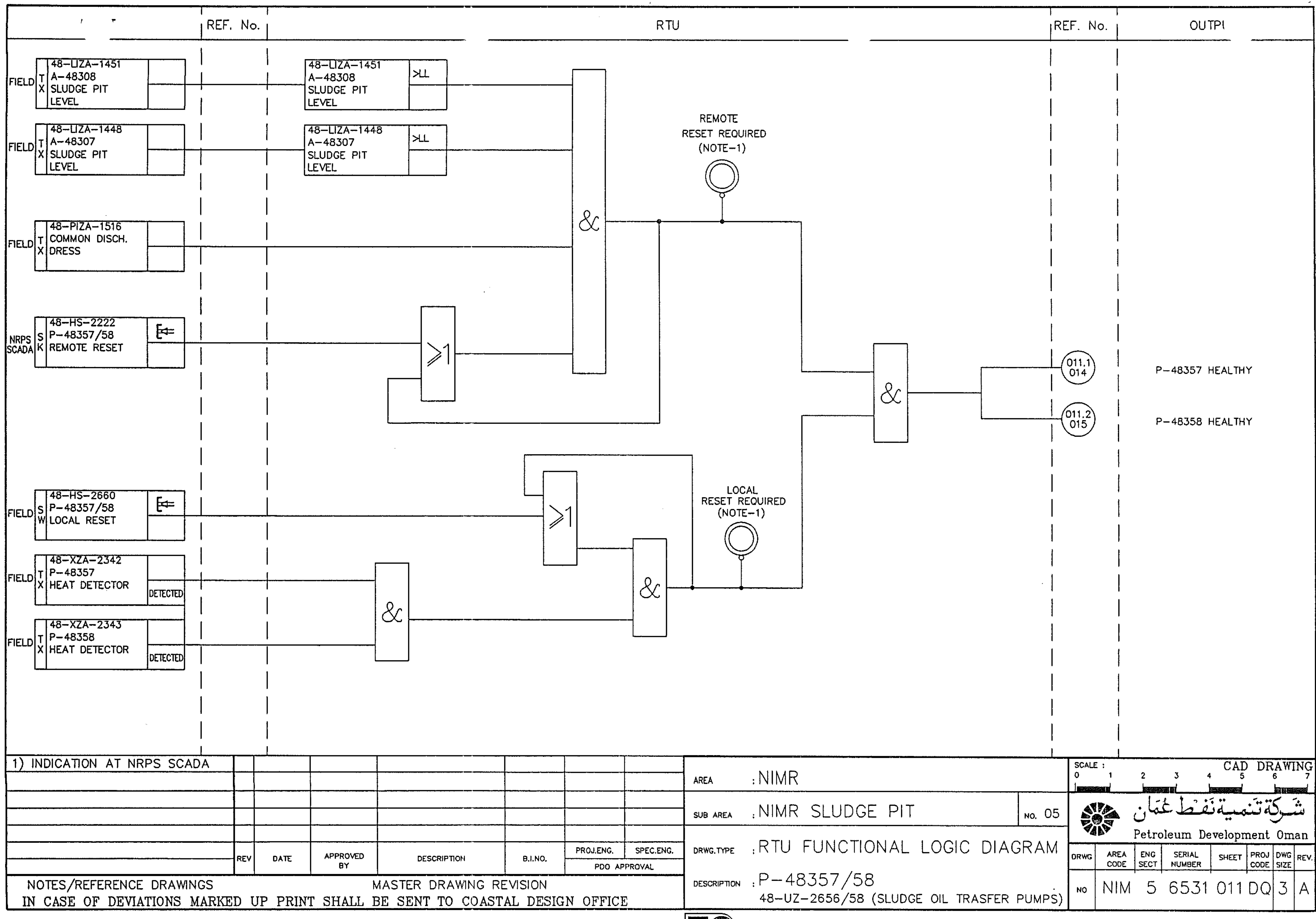
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NO	NIM	5	6531	002	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

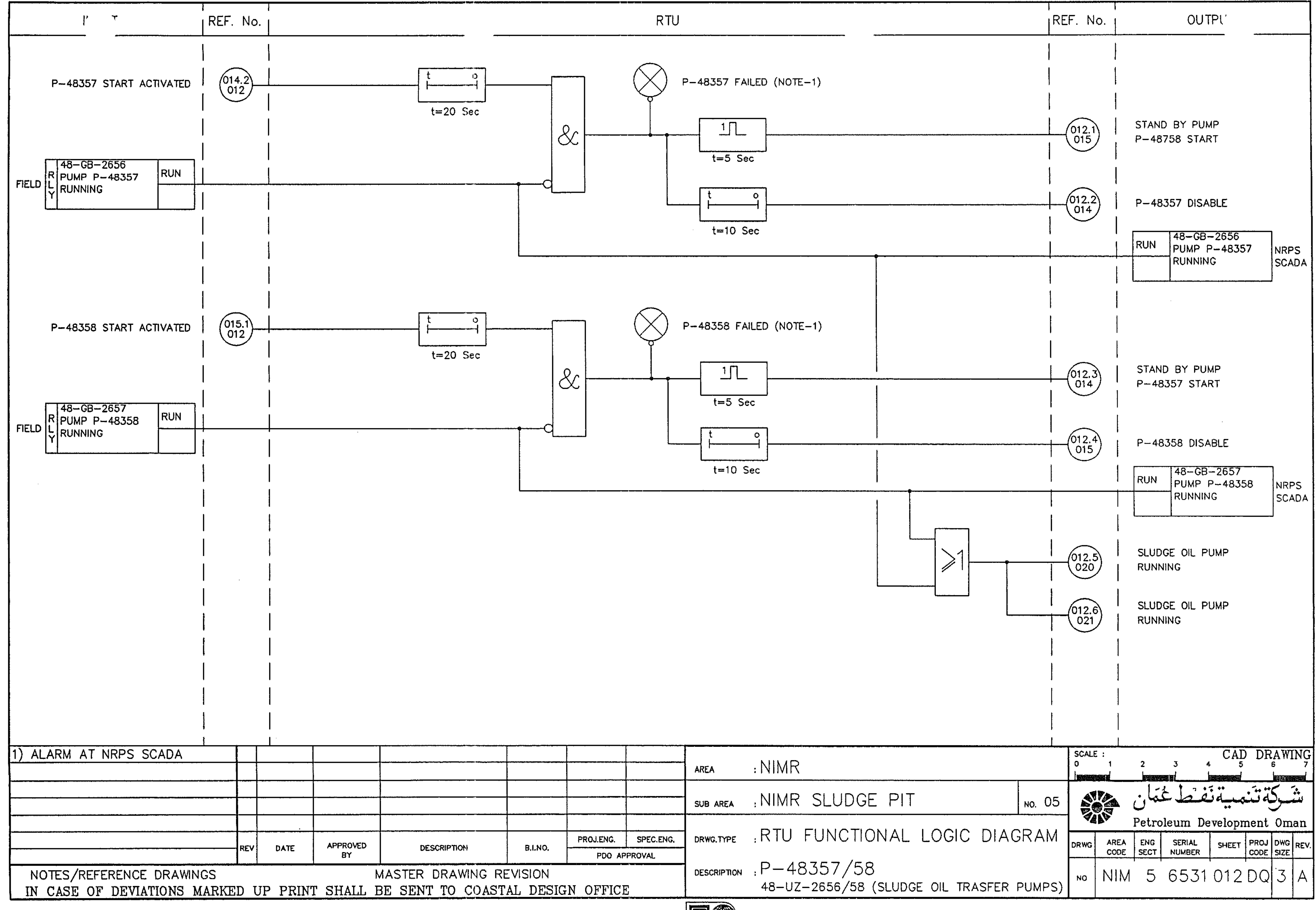


WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

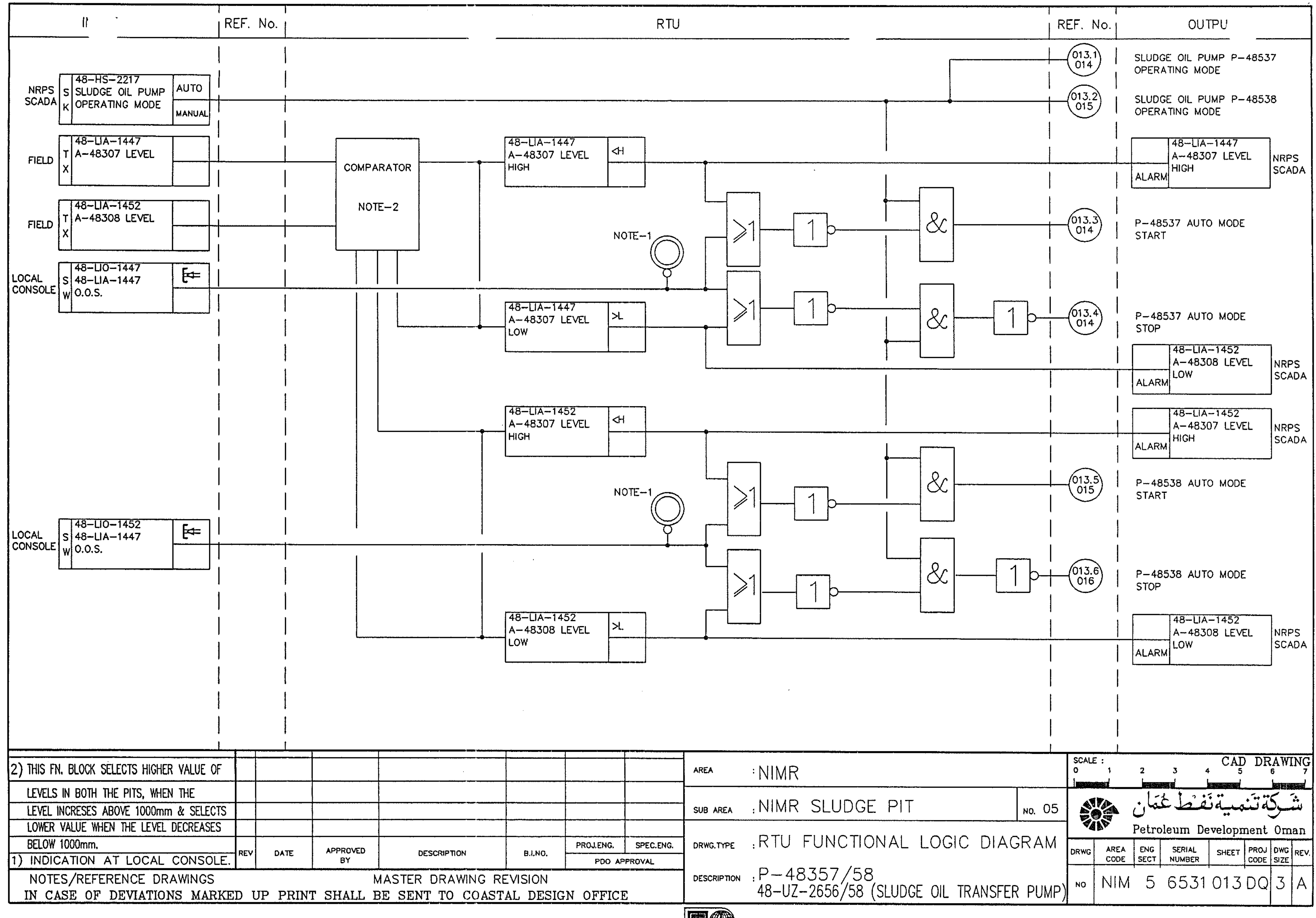

REF. No.
RTU
REF. No.
OUTPU
FLD TX 48-FI-1414 P-48357/58 COMMON DISCHARGE FLOW
48-FI-1414 P-48357/58 COMMON DISCHARGE FLOW NRPS SCADA
FLD TX 48-TIA-1468 P-48357/58 COMMON DISCHARGE TEMPERATURE
48-TIA-1468 A-48357/58 COMMON DISCHARGE TEMPEATURE LOW >L
ALARM 48-TIA-1468 P-48357/58 COMMON DISCHARGE TEMPERTURE LOW NRPS SCADA
FLD TX 48-PDIA-1520 SAND FILTER S-48362-DIFF.PRESS
48-PDIA-1520 SAND FILTER S-48362 HIGH DIFF.PRESS.
ALARM 48-PDIA-1520 SAND FILTER S-48362 HIGH DIFF PRESS NRPS SCADA
FLD TX 48-PDIA-1521 SAND FILTER S-48363-DIFF.PRESS
48-PDIA-1521 SAND FILTER S-48363 HIGH DIFF.PRESS.
ALARM 48-PDIA-1521 SAND FILTER S-48363 HIGH DIFF PRESS NRPS SCADA
NOTE-1
FLD TX 48-LIZA-1448 SLUDGE PIT A-48307 SAFEGUADING LEVEL
48-LIZA-1448 SLUDGE PIT A-48307 LEVEL HIGH HIGH
ALARM 48-LIZA-1448 SLUDGE PIT A-48307 LEVEL HIGH HIGH NRPS SCADA
&
ALARM 48-XA-4106 LOCAL AUDIBLE ALARM FLD
NOTE-1
FLD TX 48-LIZA-1451 SLUDGE PIT A-48308 SAFEGUADING LEVEL
48-LIZA-1451 SLUDGE PIT A-48308 LEVEL HIGH HIGH
ALARM 48-LIZA-1451 SLUDGE PIT A-48308 LEVEL HIGH HIGH NRPS SCADA
1) INDICATION AT LOCAL CONSOLE.
REV DATE APPROVED BY DESCRIPTION B.I.NO. PROJ.ENG. SPEC.ENG. PDO APPROVAL
NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SAUDGE PIT
NO. 05
DRWG.TYPE : RTU FUNCTIONAL LOGIC DIAGRAM
DESCRIPTION : P-48357/58
48-UZ-2656/58 (SLUDGE OIL TRASFER PUMPS)
SCALE : 0 1 2 3 4 5 6 7
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO AREA CODE ENG SECT SERIAL NUMBER SHEET PROJ CODE DWG SIZE REV.
NIM 5 6531 010 DQ 3 A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



2) THIS FN. BLOCK SELECTS HIGHER VALUE OF LEVELS IN BOTH THE PITS, WHEN THE LEVEL INCRESES ABOVE 1000mm & SELECTS LOWER VALUE WHEN THE LEVEL DECREASES BELOW 1000mm.

1) INDICATION AT LOCAL CONSOLE.

NOTES/REFERENCE DRAWINGS

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
					PDO APPROVAL	

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : RTU FUNCTIONAL LOGIC DIAGRAM

DESCRIPTION : P-48357/58
48-UZ-2656/58 (SLUDGE OIL TRANSFER PUMP)

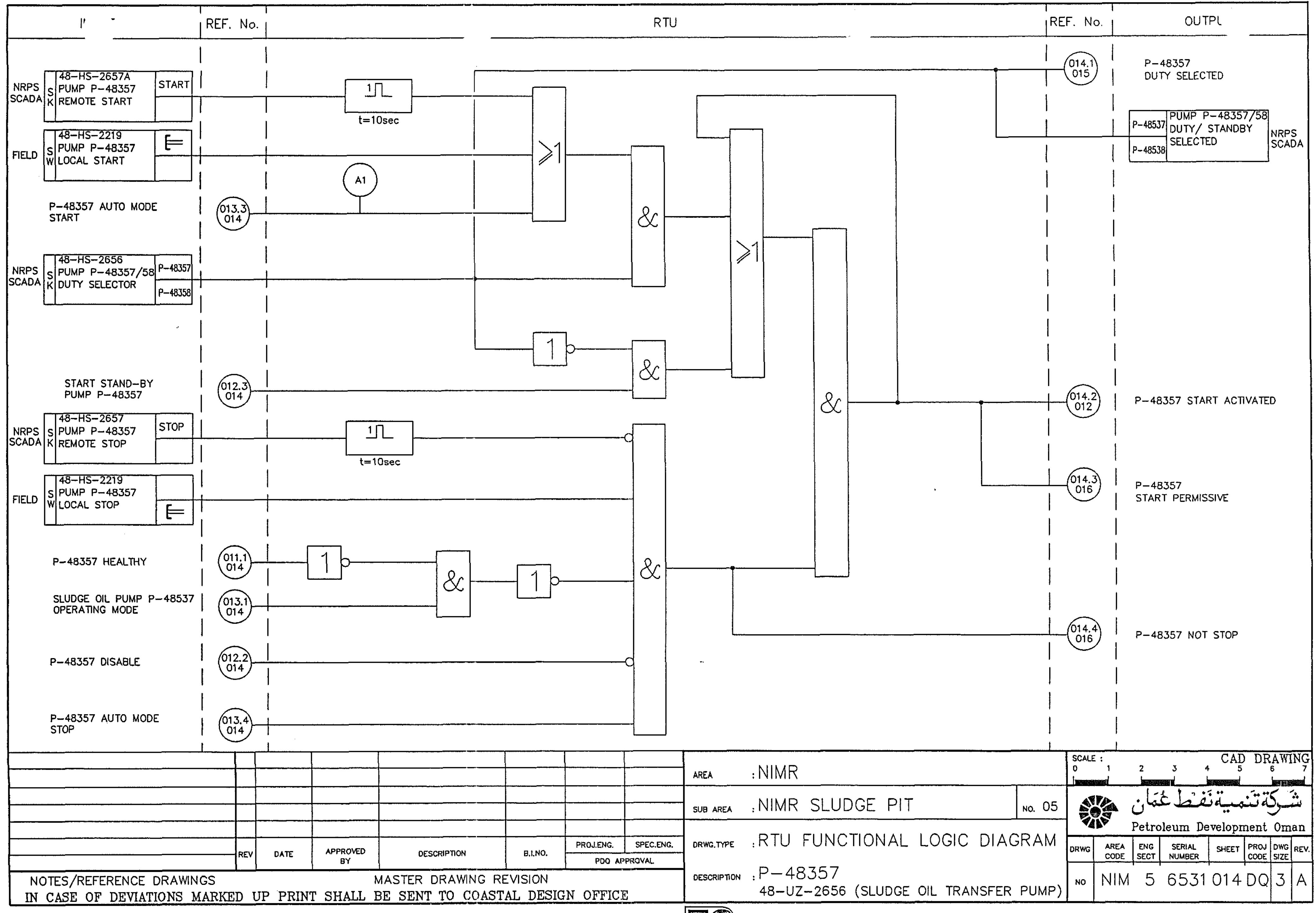
SCALE : 0 1 2 3 4 5 6 7

CAD DRAWING

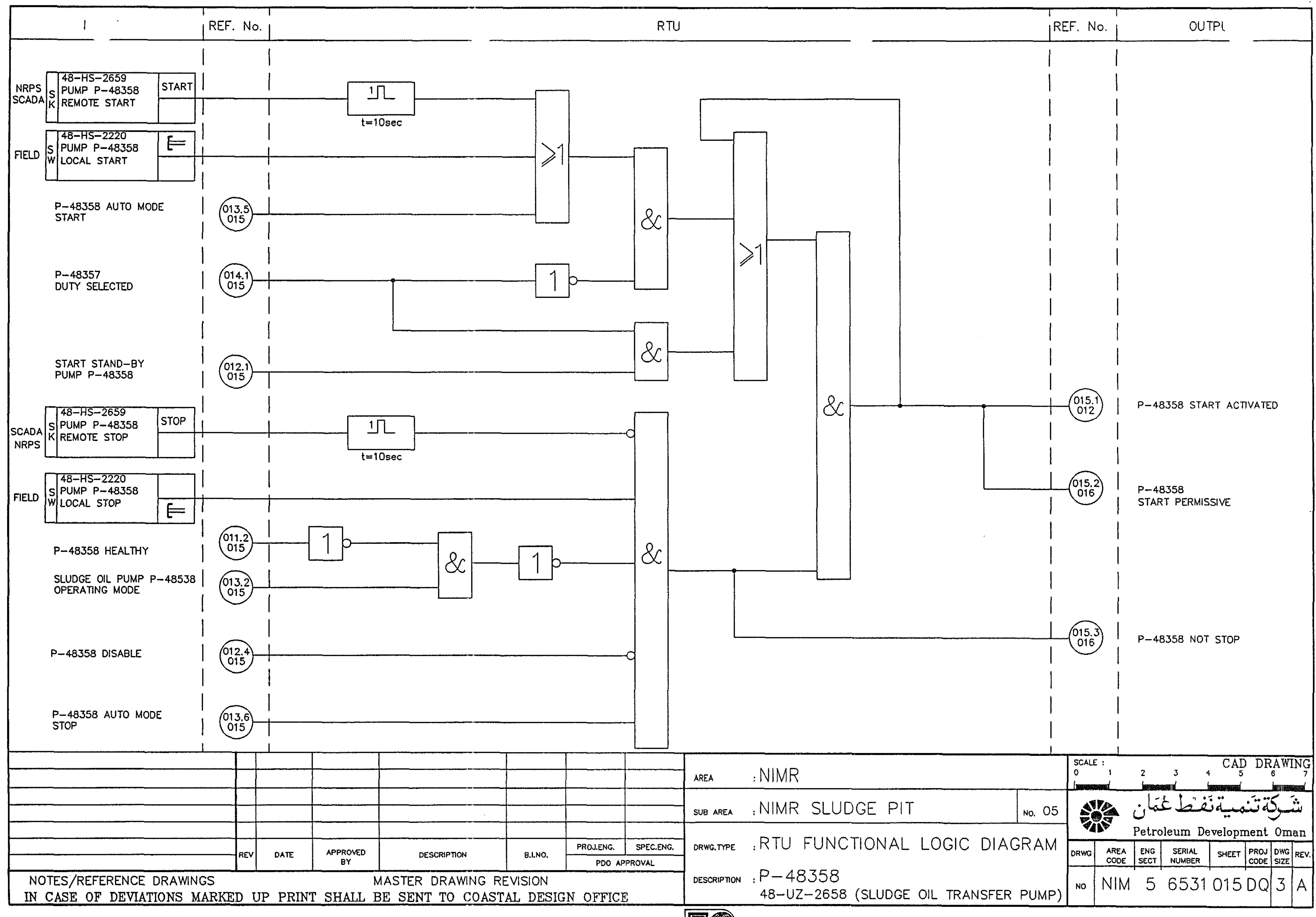
شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	6531	013	DQ	3	A

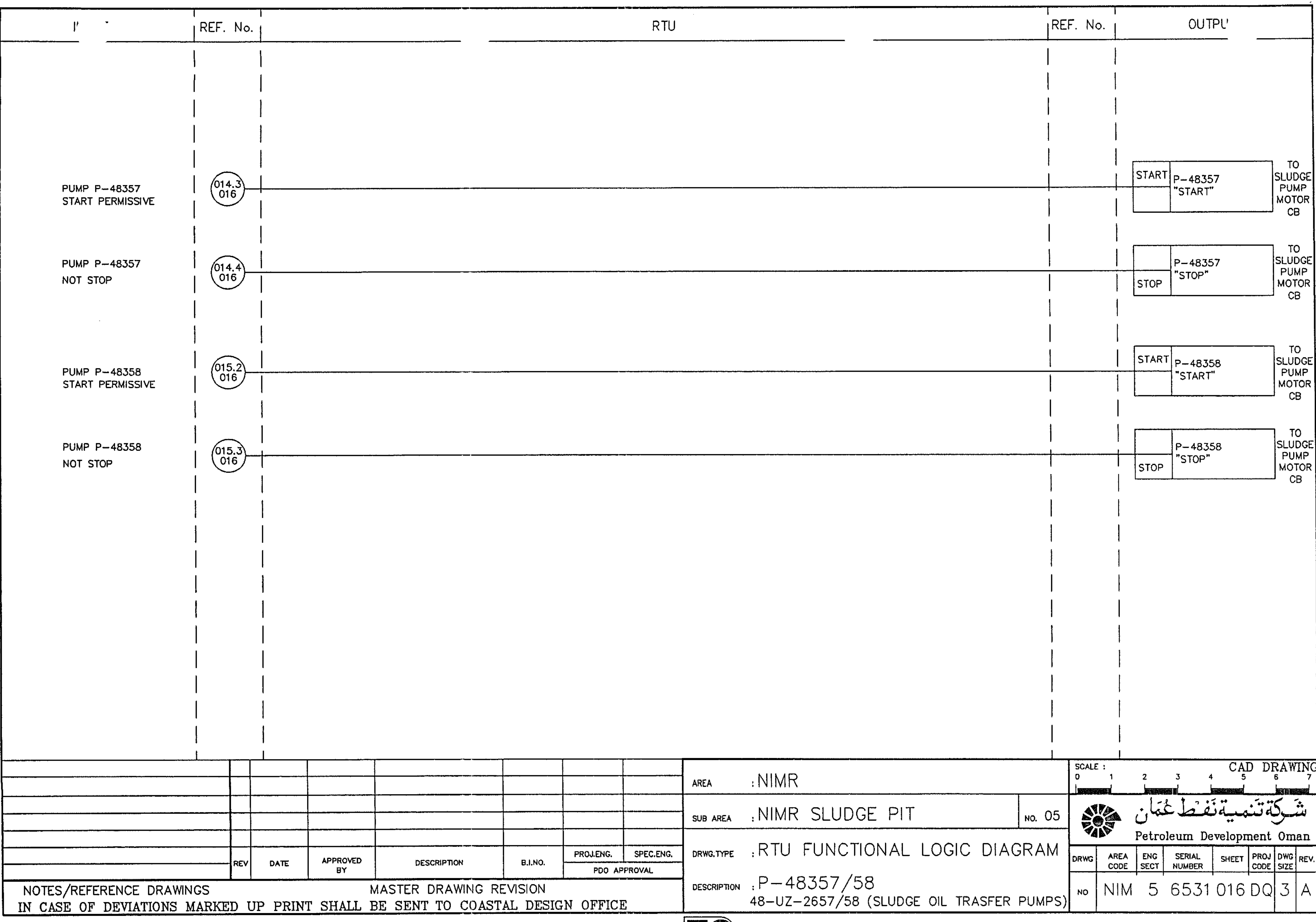
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



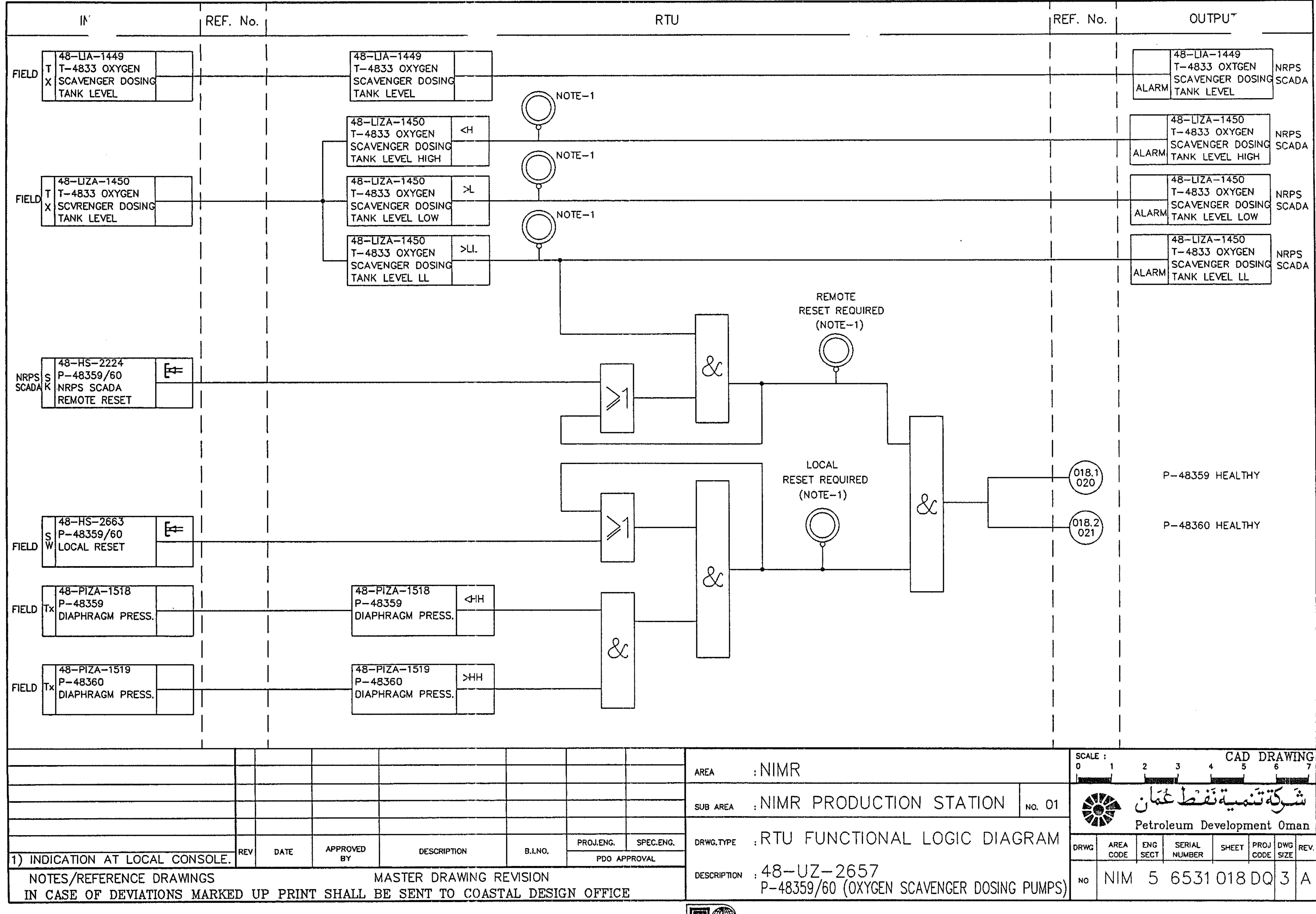
REF. No.
RTU
REF. No.
OUTPU
NRPS SCADA
S K
48-HS-2657A
PUMP P-48357
REMOTE START
START
t=10sec
P-48357
DUTY SELECTED
014.1
015
PUMP P-48357/58
DUTY/ STANDBY
SELECTED
P-48537
P-48538
NRPS SCADA
FIELD
S W
48-HS-2219
PUMP P-48357
LOCAL START
A1
P-48357 AUTO MODE
START
013.3
014
≥1
&
NRPS SCADA
S K
48-HS-2656
PUMP P-48357/58
DUTY SELECTOR
P-48357
P-48358
1
START STAND-BY
PUMP P-48357
012.3
014
014.2
012
P-48357 START ACTIVATED
NRPS SCADA
S K
48-HS-2657
PUMP P-48357
REMOTE STOP
STOP
t=10sec
FIELD
S W
48-HS-2219
PUMP P-48357
LOCAL STOP
014.3
016
P-48357
START PERMISSIVE
P-48357 HEALTHY
011.1
014
SLUDGE OIL PUMP P-48537
OPERATING MODE
013.1
014
014.4
016
P-48357 NOT STOP
P-48357 DISABLE
012.2
014
P-48357 AUTO MODE
STOP
013.4
014
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : RTU FUNCTIONAL LOGIC DIAGRAM
DESCRIPTION : P-48357
48-UZ-2656 (SLUDGE OIL TRANSFER PUMP)
SCALE :
CAD DRAWING
0 1 2 3 4 5 6 7
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NO
NIM
5
6531
014
DQ
3
A



I
REF. No.
RTU
REF. No.
OUTPU
NRPS SCADA
S K
48-HS-2659 PUMP P-48358 REMOTE START
START
FIELD
S W
48-HS-2220 PUMP P-48358 LOCAL START
t=10sec
≥1
&
≥1
&
P-48358 AUTO MODE START
013.5 015
P-48357 DUTY SELECTED
014.1 015
1
&
START STAND-BY PUMP P-48358
012.1 015
SCADA NRPS
S K
48-HS-2659 PUMP P-48358 REMOTE STOP
STOP
t=10sec
015.1 012
P-48358 START ACTIVATED
FIELD
S W
48-HS-2220 PUMP P-48358 LOCAL STOP
015.2 016
P-48358 START PERMISSIVE
P-48358 HEALTHY
011.2 015
1
&
1
&
SLUDGE OIL PUMP P-48538 OPERATING MODE
013.2 015
015.3 016
P-48358 NOT STOP
P-48358 DISABLE
012.4 015
P-48358 AUTO MODE STOP
013.6 015
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : RTU FUNCTIONAL LOGIC DIAGRAM
DESCRIPTION : P-48358
48-UZ-2658 (SLUDGE OIL TRANSFER PUMP)
SCALE :
0 1 2 3 4 5 6 7
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NO
NIM
5
6531
015
DQ
3
A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



I'
REF. No.
RTU
REF. No.
OUTPU'
PUMP P-48357
START PERMISSIVE
014.3
016
START
P-48357
"START"
TO
SLUDGE
PUMP
MOTOR
CB
PUMP P-48357
NOT STOP
014.4
016
P-48357
"STOP"
STOP
TO
SLUDGE
PUMP
MOTOR
CB
PUMP P-48358
START PERMISSIVE
015.2
016
START
P-48358
"START"
TO
SLUDGE
PUMP
MOTOR
CB
PUMP P-48358
NOT STOP
015.3
016
P-48358
"STOP"
STOP
TO
SLUDGE
PUMP
MOTOR
CB
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : RTU FUNCTIONAL LOGIC DIAGRAM
DESCRIPTION : P-48357/58
48-UZ-2657/58 (SLUDGE OIL TRASFER PUMPS)
SCALE :
CAD DRAWING
0 1 2 3 4 5 6 7
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NIM
5
6531
016
DQ
3
A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



1) INDICATION AT LOCAL CONSOLE.

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
					PDO APPROVAL	

NOTES/REFERENCE DRAWINGS — MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : NIMR PRODUCTION STATION — NO. 01

DRWG.TYPE : RTU FUNCTIONAL LOGIC DIAGRAM

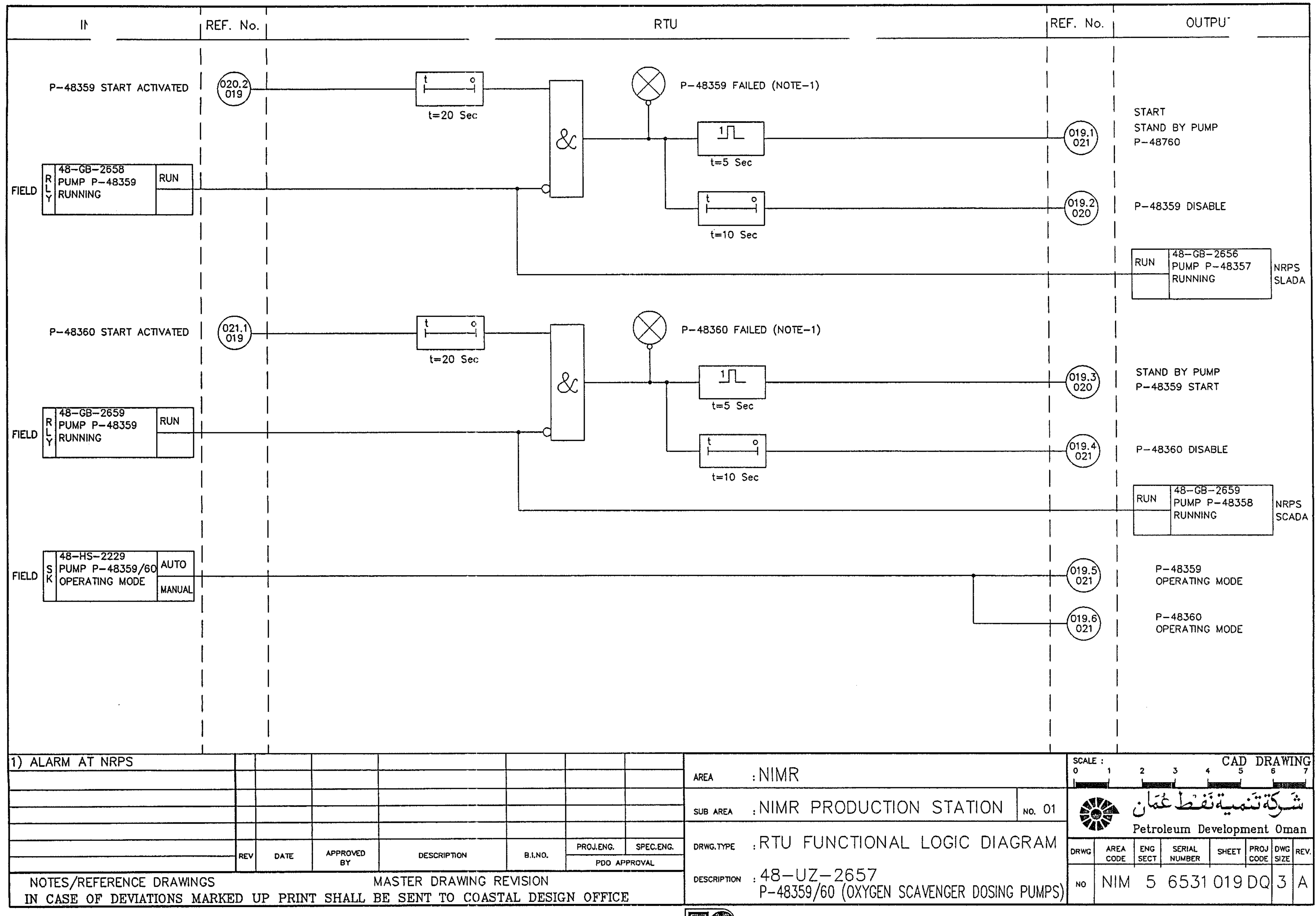
DESCRIPTION : 48-UZ-2657
P-48359/60 (OXYGEN SCAVENGER DOSING PUMPS)

SCALE : 0 1 2 3 4 5 6 7 — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	6531	018	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



1) ALARM AT NRPS

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
					PDO APPROVAL	

NOTES/REFERENCE DRAWINGS MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : NIMR PRODUCTION STATION NO. 01

DRWG.TYPE : RTU FUNCTIONAL LOGIC DIAGRAM

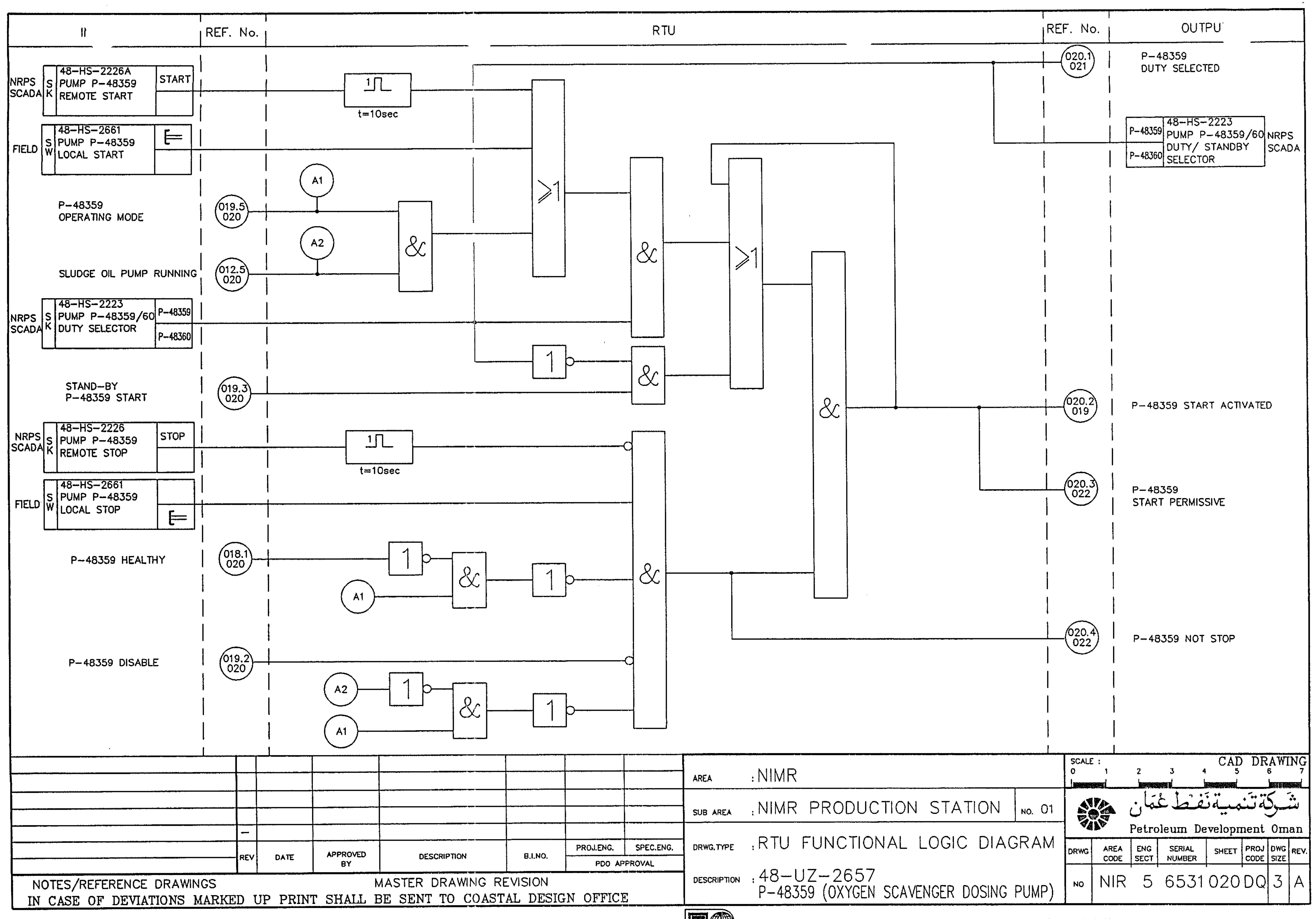
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P-48359/60 (OXYGEN SCAVENGER DOSING PUMPS)

SCALE : 0 1 2 3 4 5 6 7 CAD DRAWING

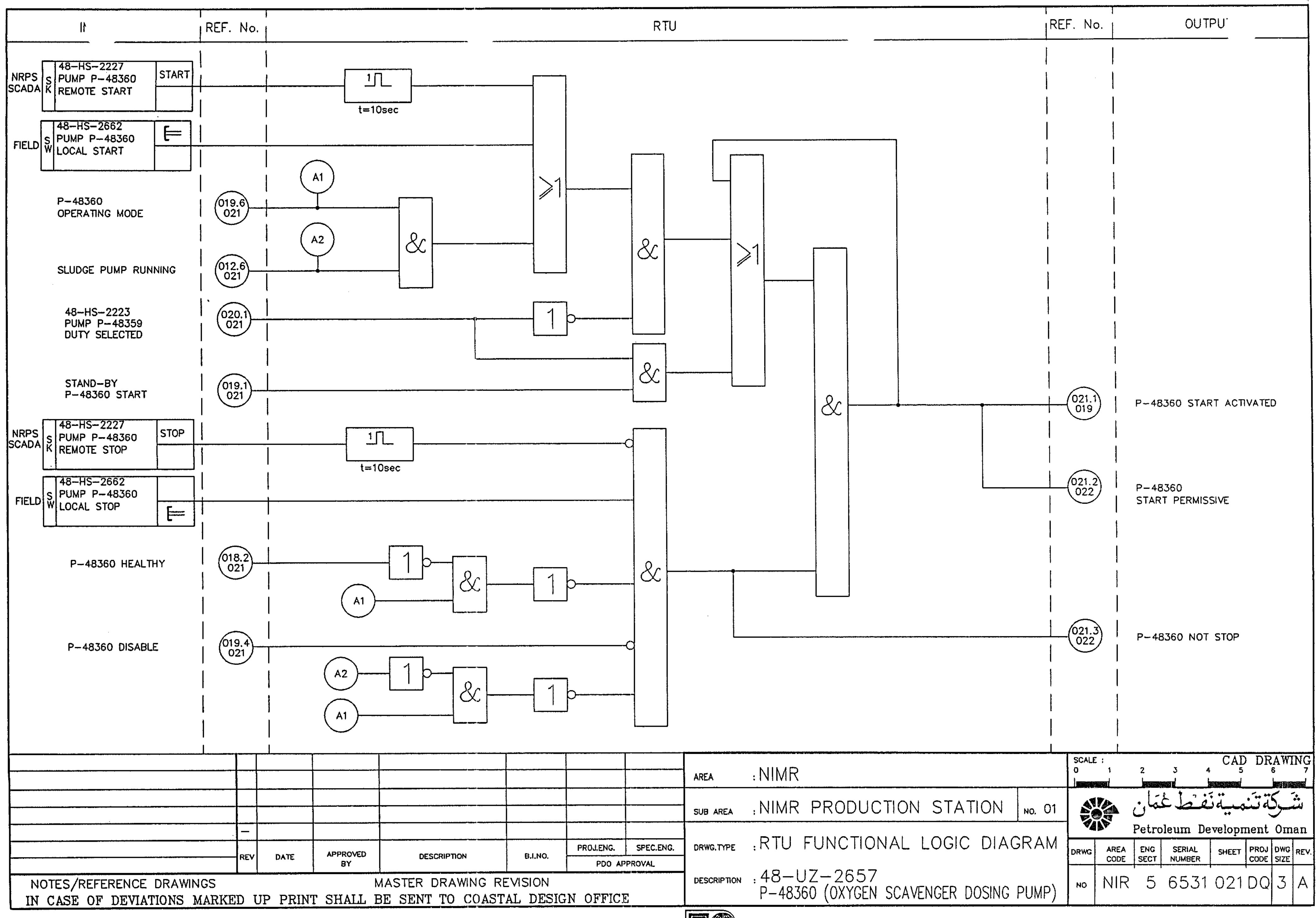
شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	6531	019	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



REF. No.
RTU
REF. No.
OUTPU
NRPS SCADA
S K
48-HS-2226A
PUMP P-48359
REMOTE START
START
t=10sec
FIELD
S W
48-HS-2661
PUMP P-48359
LOCAL START
A1
P-48359
OPERATING MODE
019.5 020
A2
SLUDGE OIL PUMP RUNNING
012.5 020
&
≥1
&
≥1
&
NRPS SCADA
S K
48-HS-2223
PUMP P-48359/60
DUTY SELECTOR
P-48359
P-48360
1
STAND-BY
P-48359 START
019.3 020
NRPS SCADA
S K
48-HS-2226
PUMP P-48359
REMOTE STOP
STOP
t=10sec
FIELD
S W
48-HS-2661
PUMP P-48359
LOCAL STOP
P-48359 HEALTHY
018.1 020
A1
P-48359 DISABLE
019.2 020
A2
A1
020.1 021
P-48359
DUTY SELECTED
P-48359
P-48360
48-HS-2223
PUMP P-48359/60
DUTY/ STANDBY
SELECTOR
NRPS SCADA
020.2 019
P-48359 START ACTIVATED
020.3 022
P-48359
START PERMISSIVE
020.4 022
P-48359 NOT STOP
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR PRODUCTION STATION
NO. 01
DRWG.TYPE : RTU FUNCTIONAL LOGIC DIAGRAM
DESCRIPTION : 48-UZ-2657
P-48359 (OXYGEN SCAVENGER DOSING PUMP)
SCALE :
CAD DRAWING
0 1 2 3 4 5 6 7
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
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NIR
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6531020
DQ
3
A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.	
					PDO APPROVAL		

NOTES/REFERENCE DRAWINGS MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : NIMR PRODUCTION STATION NO. 01

DRWG.TYPE : RTU FUNCTIONAL LOGIC DIAGRAM

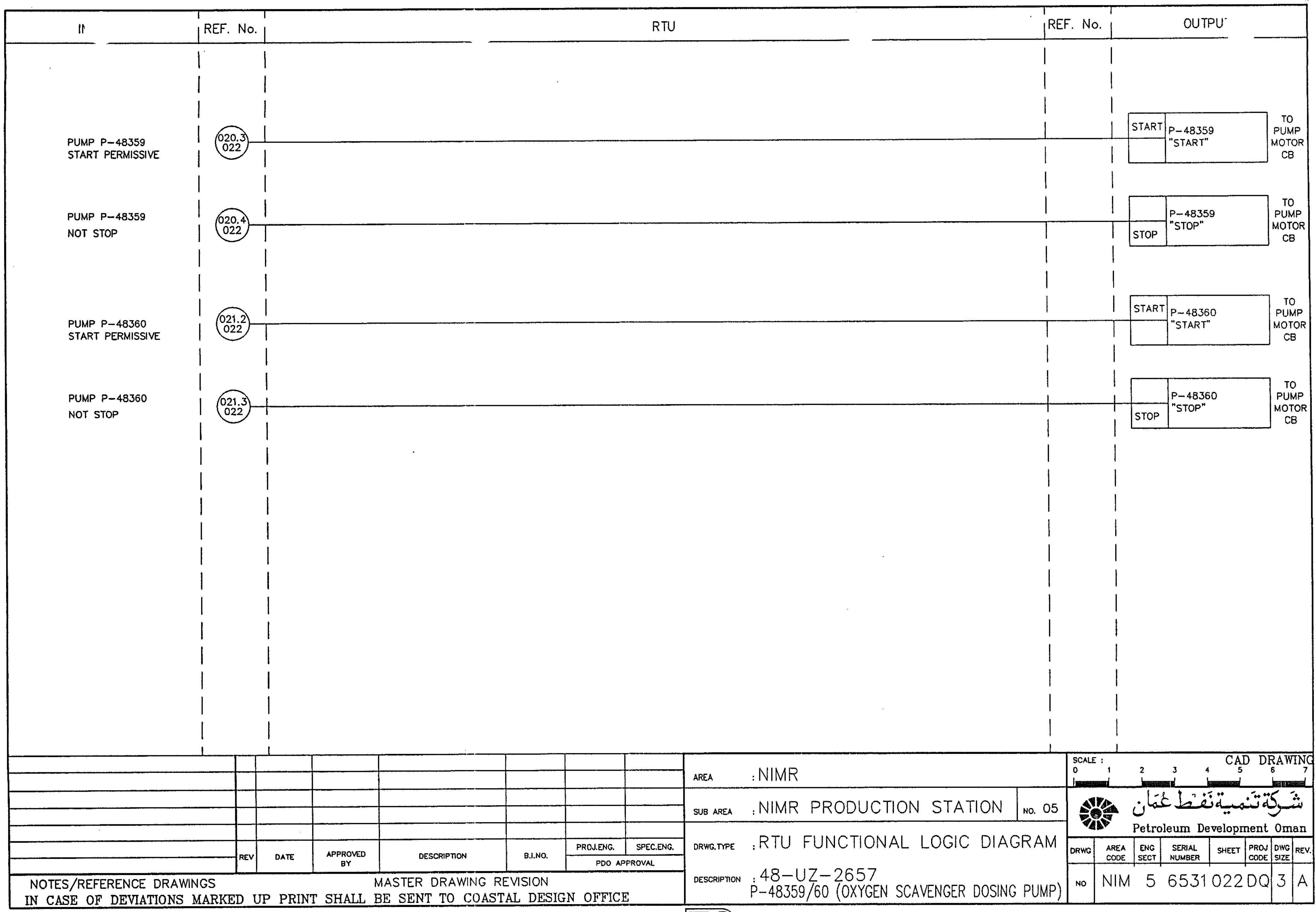
DESCRIPTION : 48-UZ-2657
P-48360 (OXYGEN SCAVENGER DOSING PUMP)

SCALE : 0 1 2 3 4 5 6 7 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIR	5	6531	021	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

DCS FUNCTIONAL LOGIC DIAGRAMS
"NIMR PRODUCTION STATION"

NOTES –

1) SERIAL LINK SIGNALS FROM THE SGS WHICH REQUIRE NO FUNCTIONAL LOGIC IN THE DCS ARE NOT SHOWN IN DCS FLD'S. SEE SGS FLD'S NIM-5-6080 FOR FULL SIGNAL DETAIL.

2) THESE FLD'S ONLY SHOW SCADA CONNECTIONS WHERE THESE ARE RELATED TO FUNCTIONAL LOGIC WITHIN THE DCS. SEE DOCUMENT No. NIM-5-5606-001- TELEMETRY POINT LIST.

SCOPE OF 'DQ' PROJECT
WBS NO.: NIM.IN.09.011

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	B.I. NO	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	SEPT.'11	SUAD	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/23N	
0	JAN.'11	Mrp	SG	SJ	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PDO APPROVAL PROJ.ENG.	PDO APPROVAL SPEC.ENG.
D	NOV.'08	ASD	AS BUILT UPTO NOV.'08	OT.08.005	OSO/22N	SK
C	FEB'02		AS BUILT FOR PROJ.3R	00.818	OME/26	
B	JUN'01		AS BUILT FOR PROJ. 2W	99.614	ONE/22	
A	JULY'00		AS BUILT FOR PROJ.'7G'	00.826	ONE/23	
0	APR.98		AS BUILT FOR PROJECT M7	96.898		

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : DCS FUNCTIONAL LOGIC DIAGRAM

DESCRIPTION : COVER SHEET

SCALE : 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	6079	001	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

SHEET NO.	DESCRIPTION	REV.0	REV.A	REV.B	REV.C	REV.D	REV.0	REV.A
001	COVER SHEET	APR.98	JULY'00	JUNE'01	FEB'02	NOV.'08	JAN.'11	SEPT.'11
002	REVISION/INDEX SHEET	↓	↓	↓	↓	NOV.'08	JAN.'11	SEPT.'11
003								
004	REVISION/INDEX SHEET	APR.98	JULY'00	JUNE'01		NOV.'08		
005	REVISION/INDEX SHEET	AUG'00		↓				
006								
007								
008								
009	REVISION/INDEX SHEET	APR.98		JUNE'01				
010	REVISION/INDEX SHEET	↓			FEB'02			
011								
012								
013								
014								
015								
016								
017								
018	GENERAL NOTES	APR.98					JAN.'11	SEPT.'11
019	TYP. ARRANGEMENT FOR VALVES WITH SCADA CONNECTIONS	↓					JAN.'11	SEPT.'11
020	LEGEND SHEET	↓					JAN.'11	SEPT.'11
021								
022								
023								
024								
025								
026								
027								
028								
029								
030								
031								
032								
033								
034								
035								

SHEET NO.	DESCRIPTIC	REV.0	REV.A	REV.B	REV.C	REV.0	A	REV.B
036								
037								
038	F & G ALARMS	APR.98		JUNE'01				
039								
040								
041								
042								
043								
044								
045								
046								
047								
048								
049								
050	48-UZ-2659 SLUDGE OIL TANK T-4807					JAN.'11	SEPT.'11	
051								
052								
053								
054								
055								
056								
057								
058								
059								
060								
061								
062								
063								
064								
065								
066								
067								
068								
069								
070								

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
D	NOV.'08	ASD	AS BUILT UPTO NOV.'08	07.08.005	OSO/22N	SK
C	FEB'02		AS BUILT FOR PROJ.3R	00.818	OME/26	
B	JUN'01		AS BUILT FOR PROJ. 2W	99.614	ONE/22	
A	JULY'00		AS BUILT FOR PROJ.'7G'	00.826	ONE/23	
0	APR.98		AS BUILT FOR PROJECT M7	96.898		

PDO APPROVAL

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : DCS FUNCTIONAL LOGIC DIAGRAM

DESCRIPTION : REVISION / INDEX SHEET

SCALE : 0 1 2 3 4 5 6 7

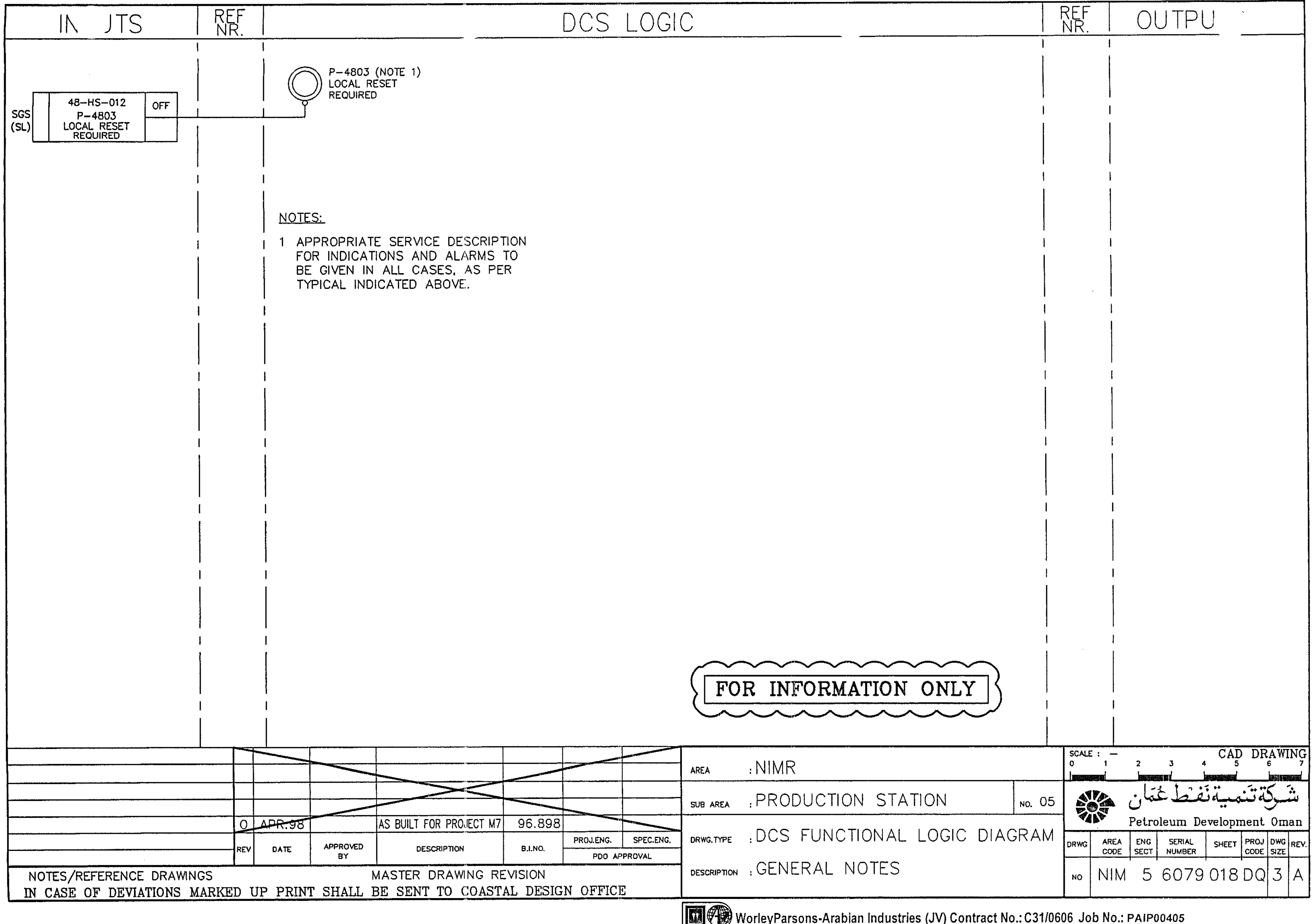
CAD DRAWING

شركة تنمية نفط عمان

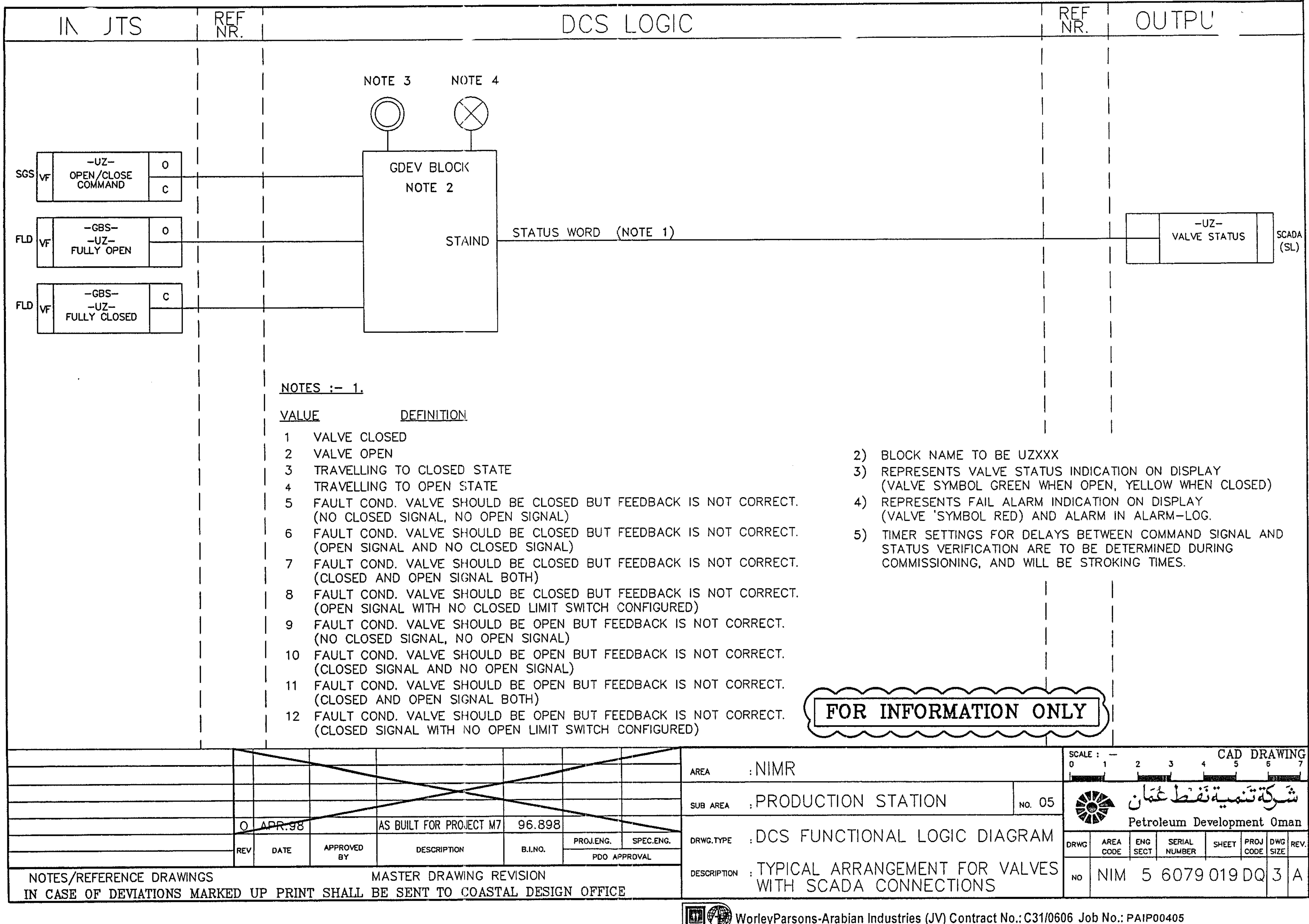
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	6079	002	DQ	3	A

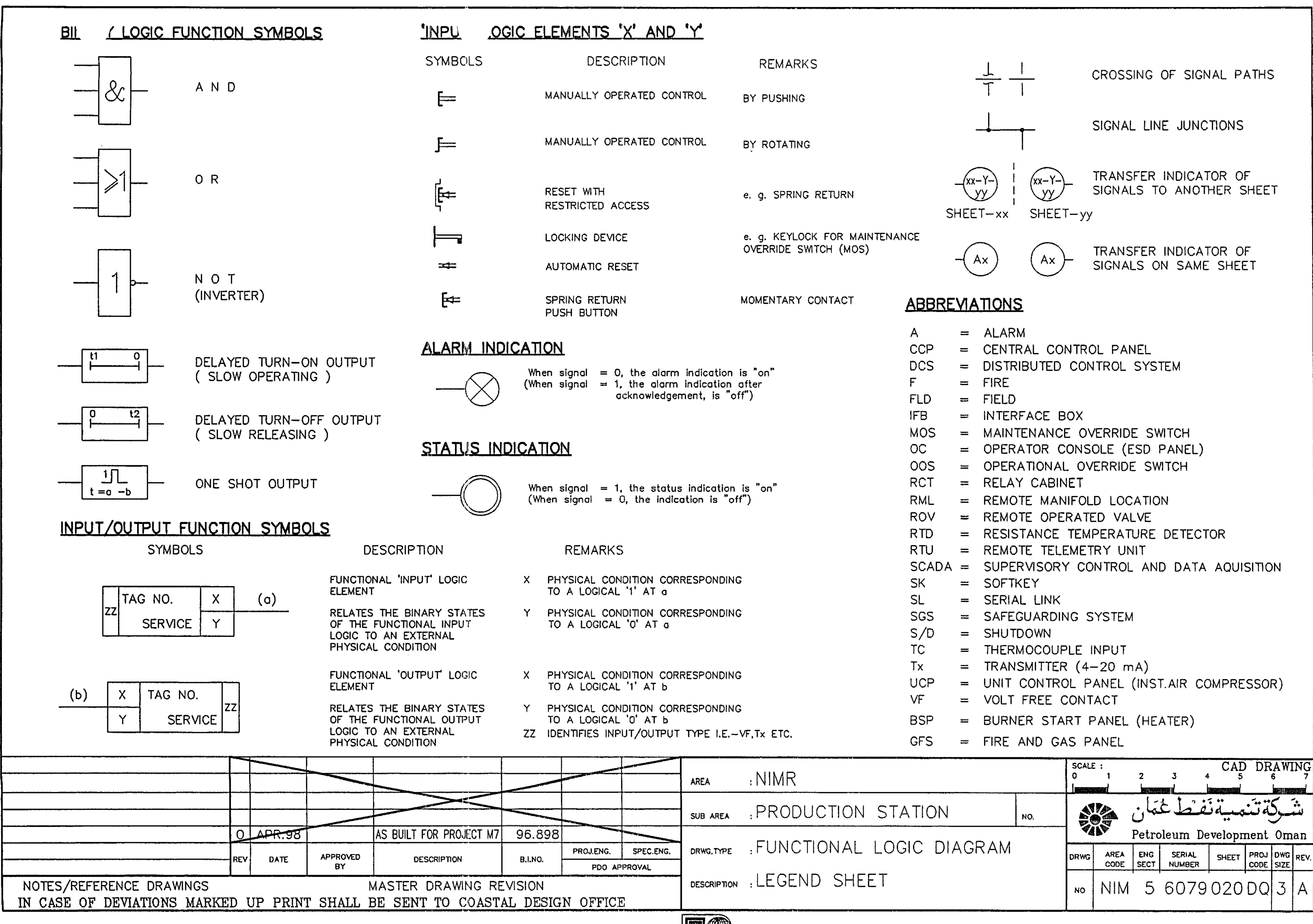
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



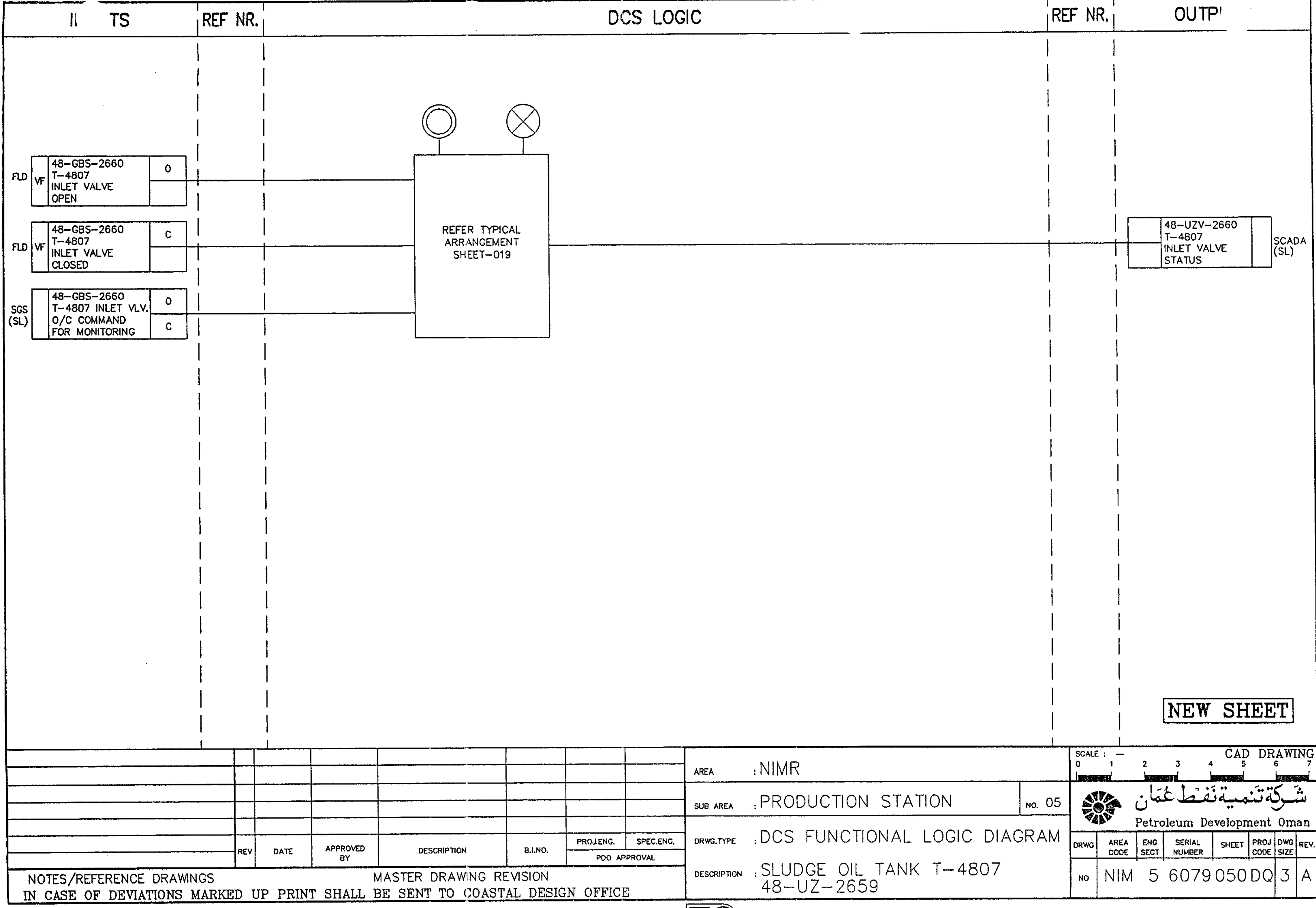
IN JTS
REF NR.
DCS LOGIC
REF NR.
OUTPU
SGS (SL)
48-HS-012
P-4803
LOCAL RESET REQUIRED
OFF
P-4803 (NOTE 1)
LOCAL RESET
REQUIRED
NOTES:
1 APPROPRIATE SERVICE DESCRIPTION FOR INDICATIONS AND ALARMS TO BE GIVEN IN ALL CASES, AS PER TYPICAL INDICATED ABOVE.
FOR INFORMATION ONLY
0 APR.98 AS BUILT FOR PROJECT M7 96.898
REV DATE APPROVED BY DESCRIPTION B.I.NO. PROJ.ENG. SPEC.ENG. PDO APPROVAL
NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : PRODUCTION STATION
NO. 05
DRWG.TYPE : DCS FUNCTIONAL LOGIC DIAGRAM
DESCRIPTION : GENERAL NOTES
SCALE : —
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO
AREA CODE NIM
ENG SECT 5
SERIAL NUMBER 6079
SHEET 018
PROJ CODE DQ
DWG SIZE 3
REV. A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



BII / LOGIC FUNCTION SYMBOLS
&
AND
>1
OR
1
NOT
(INVERTER)
t1 0
DELAYED TURN-ON OUTPUT
(SLOW OPERATING)
0 t2
DELAYED TURN-OFF OUTPUT
(SLOW RELEASING)
t =a -b
ONE SHOT OUTPUT
INPUT/OUTPUT FUNCTION SYMBOLS
SYMBOLS
DESCRIPTION
REMARKS
ZZ
TAG NO.
SERVICE
X
Y
(a)
FUNCTIONAL 'INPUT' LOGIC ELEMENT
X PHYSICAL CONDITION CORRESPONDING TO A LOGICAL '1' AT a
RELATES THE BINARY STATES OF THE FUNCTIONAL INPUT LOGIC TO AN EXTERNAL PHYSICAL CONDITION
Y PHYSICAL CONDITION CORRESPONDING TO A LOGICAL '0' AT a
(b)
X
Y
TAG NO.
SERVICE
ZZ
FUNCTIONAL 'OUTPUT' LOGIC ELEMENT
X PHYSICAL CONDITION CORRESPONDING TO A LOGICAL '1' AT b
RELATES THE BINARY STATES OF THE FUNCTIONAL OUTPUT LOGIC TO AN EXTERNAL PHYSICAL CONDITION
Y PHYSICAL CONDITION CORRESPONDING TO A LOGICAL '0' AT b
ZZ IDENTIFIES INPUT/OUTPUT TYPE I.E.-VF,Tx ETC.
'INPU OGIC ELEMENTS 'X' AND 'Y'
SYMBOLS
DESCRIPTION
REMARKS
MANUALLY OPERATED CONTROL
BY PUSHING
MANUALLY OPERATED CONTROL
BY ROTATING
RESET WITH RESTRICTED ACCESS
e. g. SPRING RETURN
LOCKING DEVICE
e. g. KEYLOCK FOR MAINTENANCE OVERRIDE SWITCH (MOS)
AUTOMATIC RESET
SPRING RETURN PUSH BUTTON
MOMENTARY CONTACT
ALARM INDICATION
When signal = 0, the alarm indication is "on"
(When signal = 1, the alarm indication after acknowledgement, is "off")
STATUS INDICATION
When signal = 1, the status indication is "on"
(When signal = 0, the indication is "off")
CROSSING OF SIGNAL PATHS
SIGNAL LINE JUNCTIONS
xx-Y-yy
xx-Y-yy
SHEET-xx
SHEET-yy
TRANSFER INDICATOR OF SIGNALS TO ANOTHER SHEET
Ax
Ax
TRANSFER INDICATOR OF SIGNALS ON SAME SHEET
ABBREVIATIONS
A = ALARM
CCP = CENTRAL CONTROL PANEL
DCS = DISTRIBUTED CONTROL SYSTEM
F = FIRE
FLD = FIELD
IFB = INTERFACE BOX
MOS = MAINTENANCE OVERRIDE SWITCH
OC = OPERATOR CONSOLE (ESD PANEL)
OOS = OPERATIONAL OVERRIDE SWITCH
RCT = RELAY CABINET
RML = REMOTE MANIFOLD LOCATION
ROV = REMOTE OPERATED VALVE
RTD = RESISTANCE TEMPERATURE DETECTOR
RTU = REMOTE TELEMETRY UNIT
SCADA = SUPERVISORY CONTROL AND DATA AQUISITION
SK = SOFTKEY
SL = SERIAL LINK
SGS = SAFEGUARDING SYSTEM
S/D = SHUTDOWN
TC = THERMOCOUPLE INPUT
Tx = TRANSMITTER (4-20 mA)
UCP = UNIT CONTROL PANEL (INST.AIR COMPRESSOR)
VF = VOLT FREE CONTACT
BSP = BURNER START PANEL (HEATER)
GFS = FIRE AND GAS PANEL
0 APR.98 AS BUILT FOR PROJECT M7 96.898
REV DATE APPROVED BY DESCRIPTION B.I.NO. PROJ.ENG. SPEC.ENG. PDO APPROVAL
NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : PRODUCTION STATION
NO.
DRWG.TYPE : FUNCTIONAL LOGIC DIAGRAM
DESCRIPTION : LEGEND SHEET
SCALE : 0 1 2 3 4 5 6 7
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG AREA CODE ENG SECT SERIAL NUMBER SHEET PROJ CODE DWG SIZE REV.
NO NIM 5 6079 020 DQ 3 A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



I TS
REF NR.
DCS LOGIC
REF NR.
OUTP'
FLD
VF
48-GBS-2660
T-4807
INLET VALVE
OPEN
O
FLD
VF
48-GBS-2660
T-4807
INLET VALVE
CLOSED
C
SGS
(SL)
48-GBS-2660
T-4807 INLET VLV.
O/C COMMAND
FOR MONITORING
O
C
REFER TYPICAL
ARRANGEMENT
SHEET-019
48-UZV-2660
T-4807
INLET VALVE
STATUS
SCADA
(SL)
NEW SHEET
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : PRODUCTION STATION
NO. 05
DRWG.TYPE : DCS FUNCTIONAL LOGIC DIAGRAM
DESCRIPTION : SLUDGE OIL TANK T-4807
48-UZ-2659
SCALE : —
CAD DRAWING
0 1 2 3 4 5 6 7
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG
NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NIM
5
6079
050
DQ
3
A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

SGS FUNCTIONAL LOGIC DIAGRAMS

"NIMR PRODUCTION STATION"

SCOPE OF 'DQ' PROJECT
WBS NO.: NIM.IN.09.011

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	TEAML. (CHECKED)	J.ENG. (CHECKED)	DESCRIPTION	WBS NO.	PROJ. ENG. (P D O APPROVAL)	
A	SEPT.'11	SUAG	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/23N	
0	JAN'11	NS	SG	SJ	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

REV	DATE	APPROVED BY	DESCRIPTION	WBS No ~~B.I.NO.~~	PROJ.ENG. (PDO APPROVAL)	SPEC.ENG. (PDO APPROVAL)
V	NOV.'08	ASD	AS BUILT UP TO NOV.'08	OT.08.005	OSO/22N	SK
U	APR.05		AS BUILT FOR PROJ.'5X'	02.001		BW
T	JAN.05		AS-BUILT FOR PROJ. '3Y/X4'	00.394/95.052		BW
S	DEC'04		AS BUILT FOR PROJ. '5R'	01.116	OSE/24N	
R	DEC'04		AS BUILT FOR PROJ. '5V'	IN.02.002	TTP/57	
Q	MAR'02		AS BUILT FOR PROJECT '4P'	00.802	OME/41	JAMAL
P	FEB'02		AS BUILT FOR PROJECT '3R'	00.818	OME/26	
M	JULY'00		AS BUILT FOR PROJ S8,T1,M9	00.826	ONE/24	
D	SEP.98		AS BUILT FOR PROJECT V2	92.640	ONE/24	

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : SGS FUNCTIONAL LOGIC DIAGRAM

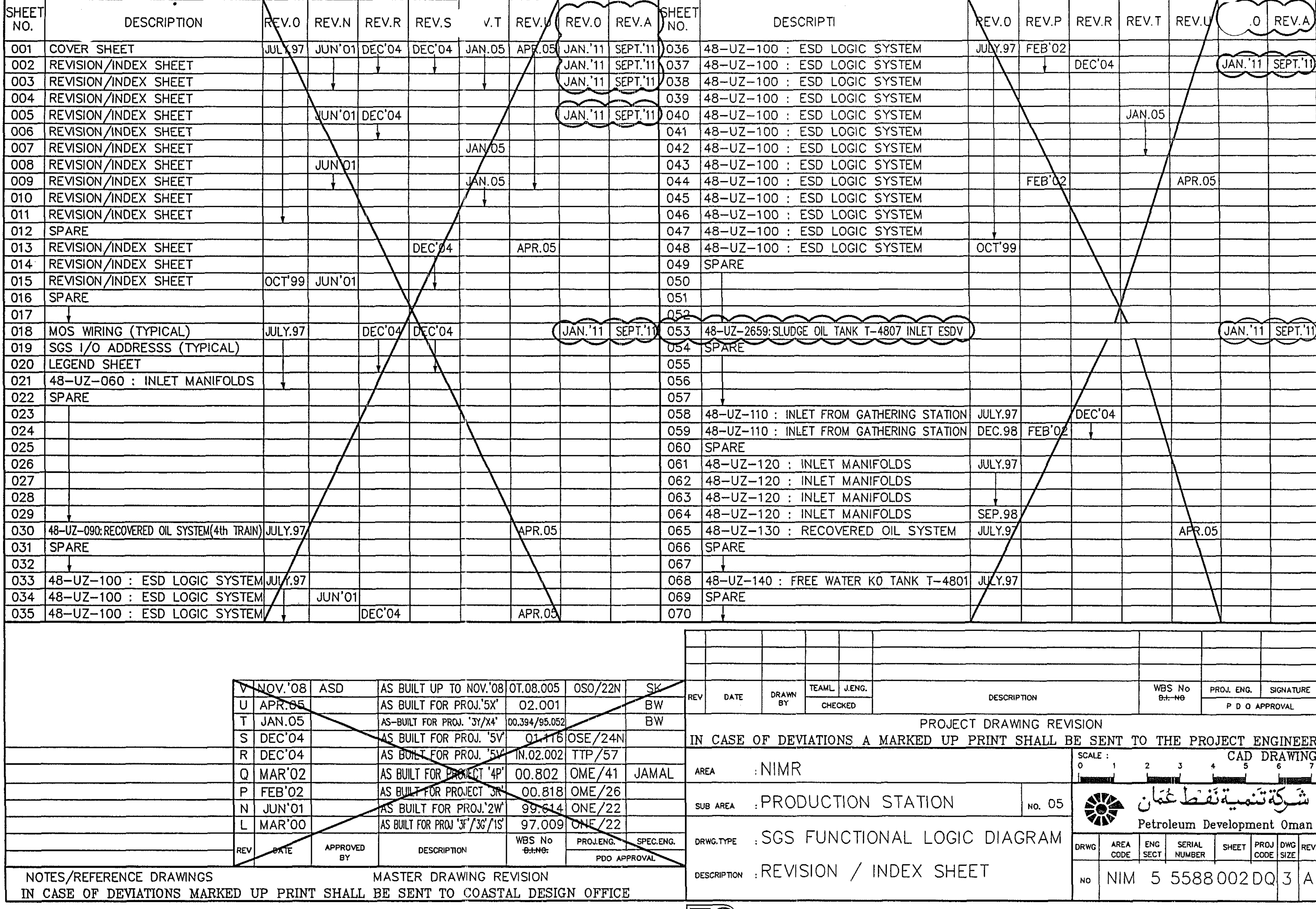
DESCRIPTION : COVER SHEET

SCALE : 0 1 2 3 4 5 6 7 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5588	001	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



SHEET NO.	DESCRIPTION	REV.0	REV.N	REV.R	REV.S	V.T	REV.U	REV.0	REV.A
001	COVER SHEET	JULY.97	JUN'01	DEC'04	DEC'04	JAN.05	APR.05	JAN.'11	SEPT.'11
002	REVISION/INDEX SHEET							JAN.'11	SEPT.'11
003	REVISION/INDEX SHEET							JAN.'11	SEPT.'11
004	REVISION/INDEX SHEET								
005	REVISION/INDEX SHEET		JUN'01	DEC'04				JAN.'11	SEPT.'11
006	REVISION/INDEX SHEET								
007	REVISION/INDEX SHEET					JAN.05			
008	REVISION/INDEX SHEET		JUN'01						
009	REVISION/INDEX SHEET					JAN.05			
010	REVISION/INDEX SHEET								
011	REVISION/INDEX SHEET								
012	SPARE								
013	REVISION/INDEX SHEET				DEC'04		APR.05		
014	REVISION/INDEX SHEET								
015	REVISION/INDEX SHEET	OCT'99	JUN'01						
016	SPARE								
017									
018	MOS WIRING (TYPICAL)	JULY.97		DEC'04	DEC'04			JAN.'11	SEPT.'11
019	SGS I/O ADDRESSS (TYPICAL)								
020	LEGEND SHEET								
021	48-UZ-060 : INLET MANIFOLDS								
022	SPARE								
023									
024									
025									
026									
027									
028									
029									
030	48-UZ-090:RECOVERED OIL SYSTEM(4th TRAIN)	JULY.97					APR.05		
031	SPARE								
032									
033	48-UZ-100 : ESD LOGIC SYSTEM	JULY.97							
034	48-UZ-100 : ESD LOGIC SYSTEM		JUN'01						
035	48-UZ-100 : ESD LOGIC SYSTEM			DEC'04			APR.05		

SHEET NO.	DESCRIPTI	REV.0	REV.P	REV.R	REV.T	REV.U	.0	REV.A
036	48-UZ-100 : ESD LOGIC SYSTEM	JULY.97	FEB'02					
037	48-UZ-100 : ESD LOGIC SYSTEM			DEC'04			JAN.'11	SEPT.'11
038	48-UZ-100 : ESD LOGIC SYSTEM							
039	48-UZ-100 : ESD LOGIC SYSTEM							
040	48-UZ-100 : ESD LOGIC SYSTEM				JAN.05			
041	48-UZ-100 : ESD LOGIC SYSTEM							
042	48-UZ-100 : ESD LOGIC SYSTEM							
043	48-UZ-100 : ESD LOGIC SYSTEM							
044	48-UZ-100 : ESD LOGIC SYSTEM		FEB'02			APR.05		
045	48-UZ-100 : ESD LOGIC SYSTEM							
046	48-UZ-100 : ESD LOGIC SYSTEM							
047	48-UZ-100 : ESD LOGIC SYSTEM							
048	48-UZ-100 : ESD LOGIC SYSTEM	OCT'99						
049	SPARE							
050								
051								
052								
053	48-UZ-2659: SLUDGE OIL TANK T-4807 INLET ESDV						JAN.'11	SEPT.'11
054	SPARE							
055								
056								
057								
058	48-UZ-110 : INLET FROM GATHERING STATION	JULY.97		DEC'04				
059	48-UZ-110 : INLET FROM GATHERING STATION	DEC.98	FEB'02					
060	SPARE							
061	48-UZ-120 : INLET MANIFOLDS	JULY.97						
062	48-UZ-120 : INLET MANIFOLDS							
063	48-UZ-120 : INLET MANIFOLDS							
064	48-UZ-120 : INLET MANIFOLDS	SEP.98						
065	48-UZ-130 : RECOVERED OIL SYSTEM	JULY.97				APR.05		
066	SPARE							
067								
068	48-UZ-140 : FREE WATER KO TANK T-4801	JULY.97						
069	SPARE							
070								

REV	DATE	APPROVED BY	DESCRIPTION	WBS No ~~B.I.NO.~~	PROJ.ENG. (PDO APPROVAL)	SPEC.ENG. (PDO APPROVAL)
V	NOV.'08	ASD	AS BUILT UP TO NOV.'08	OT.08.005	OSO/22N	SK
U	APR.05		AS BUILT FOR PROJ.'5X'	02.001		BW
T	JAN.05		AS-BUILT FOR PROJ. '3Y/X4'	00.394/95.052		BW
S	DEC'04		AS BUILT FOR PROJ. '5V'	01.116	OSE/24N	
R	DEC'04		AS BUILT FOR PROJ. '5V'	IN.02.002	TTP/57	
Q	MAR'02		AS BUILT FOR PROJECT '4P'	00.802	OME/41	JAMAL
P	FEB'02		AS BUILT FOR PROJECT '3R'	00.818	OME/26	
N	JUN'01		AS BUILT FOR PROJ.'2W'	99.614	ONE/22	
L	MAR'00		AS BUILT FOR PROJ '3F'/'3G'/'1S'	97.009	ONE/22	

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No ~~B.I. NO~~	PROJ. ENG. (P D O APPROVAL)	SIGNATURE (P D O APPROVAL)

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : SGS FUNCTIONAL LOGIC DIAGRAM

DESCRIPTION : REVISION / INDEX SHEET

SCALE : 0 1 2 3 4 5 6 7

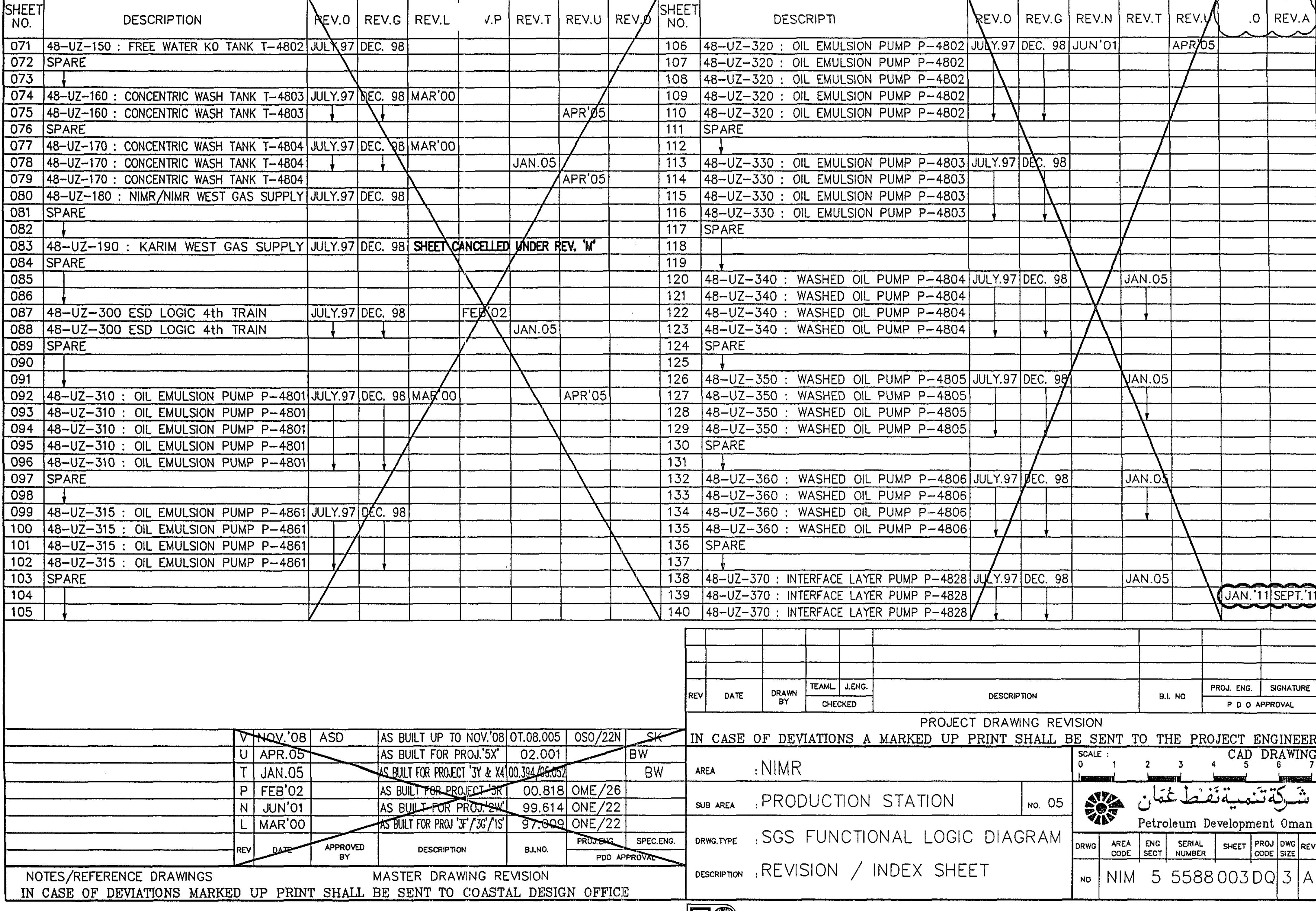
CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5588	002	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



SHEET NO.	DESCRIPTION	REV.0	REV.G	REV.L	V.P	REV.T	REV.U	REV.V
071	48-UZ-150 : FREE WATER KO TANK T-4802	JULY.97	DEC. 98					
072	SPARE							
073	↓							
074	48-UZ-160 : CONCENTRIC WASH TANK T-4803	JULY.97	DEC. 98	MAR'00				
075	48-UZ-160 : CONCENTRIC WASH TANK T-4803	↓	↓				APR'05	
076	SPARE							
077	48-UZ-170 : CONCENTRIC WASH TANK T-4804	JULY.97	DEC. 98	MAR'00				
078	48-UZ-170 : CONCENTRIC WASH TANK T-4804	↓	↓			JAN.05		
079	48-UZ-170 : CONCENTRIC WASH TANK T-4804						APR'05	
080	48-UZ-180 : NIMR/NIMR WEST GAS SUPPLY	JULY.97	DEC. 98					
081	SPARE							
082	↓							
083	48-UZ-190 : KARIM WEST GAS SUPPLY	JULY.97	DEC. 98	**SHEET CANCELLED UNDER REV. 'M'**				
084	SPARE							
085								
086	↓							
087	48-UZ-300 ESD LOGIC 4th TRAIN	JULY.97	DEC. 98		FEB'02			
088	48-UZ-300 ESD LOGIC 4th TRAIN	↓	↓			JAN.05		
089	SPARE							
090								
091	↓							
092	48-UZ-310 : OIL EMULSION PUMP P-4801	JULY.97	DEC. 98	MAR'00			APR'05	
093	48-UZ-310 : OIL EMULSION PUMP P-4801							
094	48-UZ-310 : OIL EMULSION PUMP P-4801							
095	48-UZ-310 : OIL EMULSION PUMP P-4801							
096	48-UZ-310 : OIL EMULSION PUMP P-4801	↓	↓					
097	SPARE							
098	↓							
099	48-UZ-315 : OIL EMULSION PUMP P-4861	JULY.97	DEC. 98					
100	48-UZ-315 : OIL EMULSION PUMP P-4861							
101	48-UZ-315 : OIL EMULSION PUMP P-4861							
102	48-UZ-315 : OIL EMULSION PUMP P-4861	↓	↓					
103	SPARE							
104								
105	↓							

SHEET NO.	DESCRIPTI	REV.0	REV.G	REV.N	REV.T	REV.U	.0	REV.A
106	48-UZ-320 : OIL EMULSION PUMP P-4802	JULY.97	DEC. 98	JUN'01		APR'05		
107	48-UZ-320 : OIL EMULSION PUMP P-4802							
108	48-UZ-320 : OIL EMULSION PUMP P-4802							
109	48-UZ-320 : OIL EMULSION PUMP P-4802							
110	48-UZ-320 : OIL EMULSION PUMP P-4802	↓	↓					
111	SPARE							
112	↓							
113	48-UZ-330 : OIL EMULSION PUMP P-4803	JULY.97	DEC. 98					
114	48-UZ-330 : OIL EMULSION PUMP P-4803							
115	48-UZ-330 : OIL EMULSION PUMP P-4803							
116	48-UZ-330 : OIL EMULSION PUMP P-4803	↓	↓					
117	SPARE							
118								
119	↓							
120	48-UZ-340 : WASHED OIL PUMP P-4804	JULY.97	DEC. 98		JAN.05			
121	48-UZ-340 : WASHED OIL PUMP P-4804							
122	48-UZ-340 : WASHED OIL PUMP P-4804				↓			
123	48-UZ-340 : WASHED OIL PUMP P-4804	↓	↓					
124	SPARE							
125	↓							
126	48-UZ-350 : WASHED OIL PUMP P-4805	JULY.97	DEC. 98		JAN.05			
127	48-UZ-350 : WASHED OIL PUMP P-4805							
128	48-UZ-350 : WASHED OIL PUMP P-4805				↓			
129	48-UZ-350 : WASHED OIL PUMP P-4805	↓	↓					
130	SPARE							
131	↓							
132	48-UZ-360 : WASHED OIL PUMP P-4806	JULY.97	DEC. 98		JAN.05			
133	48-UZ-360 : WASHED OIL PUMP P-4806							
134	48-UZ-360 : WASHED OIL PUMP P-4806				↓			
135	48-UZ-360 : WASHED OIL PUMP P-4806	↓	↓					
136	SPARE							
137	↓							
138	48-UZ-370 : INTERFACE LAYER PUMP P-4828	JULY.97	DEC. 98		JAN.05			
139	48-UZ-370 : INTERFACE LAYER PUMP P-4828						JAN.'11	SEPT.'11
140	48-UZ-370 : INTERFACE LAYER PUMP P-4828	↓	↓					

REV	DATE	DRAWN BY	TEAML. (CHECKED)	J.ENG. (CHECKED)	DESCRIPTION	B.I. NO	PROJ. ENG. (P D O APPROVAL)	SIGNATURE (P D O APPROVAL)

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG. (PDO APPROVAL)	SPEC.ENG. (PDO APPROVAL)
V	NOV.'08	ASD	AS BUILT UP TO NOV.'08	0T.08.005	OSO/22N	SK
U	APR.05		AS BUILT FOR PROJ.'5X'	02.001		BW
T	JAN.05		AS BUILT FOR PROJECT '3Y & X4'	00.394/05.052		BW
P	FEB'02		AS BUILT FOR PROJECT '3R'	00.818	OME/26	
N	JUN'01		AS BUILT FOR PROJ.'2W'	99.614	ONE/22	
L	MAR'00		AS BUILT FOR PROJ '3F'/'3G'/'1S'	97.009	ONE/22	

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

SCALE : 0 1 2 3 4 5 6 7

CAD DRAWING

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : SGS FUNCTIONAL LOGIC DIAGRAM

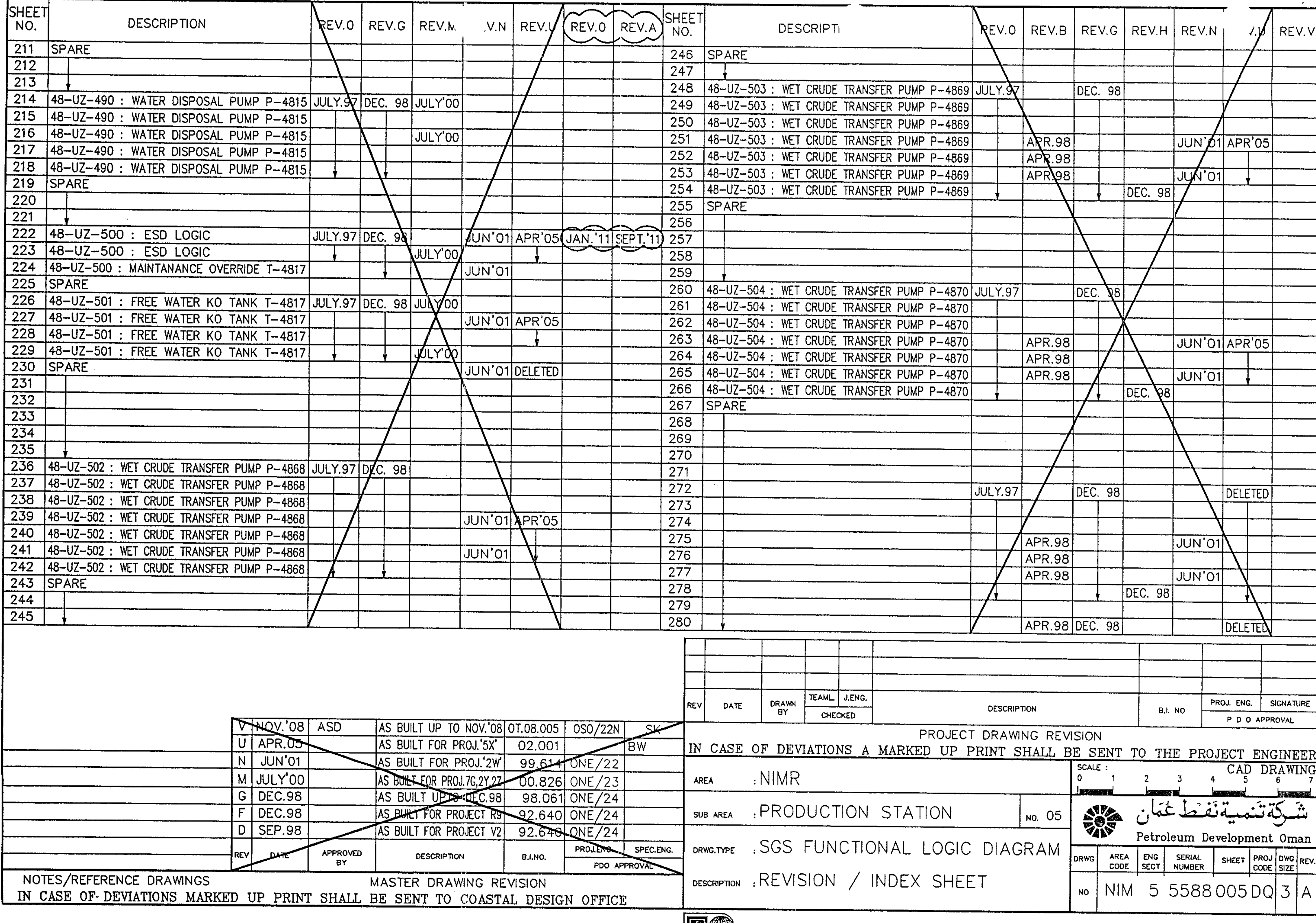
DESCRIPTION : REVISION / INDEX SHEET

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV
NO	NIM	5	5588	003	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



SHEET NO.	DESCRIPTION	REV.0	REV.G	REV.M	REV.N	REV.U	REV.0	REV.A
211	SPARE							
212								
213								
214	48-UZ-490 : WATER DISPOSAL PUMP P-4815	JULY.97	DEC. 98	JULY'00				
215	48-UZ-490 : WATER DISPOSAL PUMP P-4815							
216	48-UZ-490 : WATER DISPOSAL PUMP P-4815			JULY'00				
217	48-UZ-490 : WATER DISPOSAL PUMP P-4815							
218	48-UZ-490 : WATER DISPOSAL PUMP P-4815							
219	SPARE							
220								
221								
222	48-UZ-500 : ESD LOGIC	JULY.97	DEC. 98		JUN'01	APR'05	JAN.'11	SEPT.'11
223	48-UZ-500 : ESD LOGIC			JULY'00				
224	48-UZ-500 : MAINTANANCE OVERRIDE T-4817				JUN'01			
225	SPARE							
226	48-UZ-501 : FREE WATER KO TANK T-4817	JULY.97	DEC. 98	JULY'00				
227	48-UZ-501 : FREE WATER KO TANK T-4817				JUN'01	APR'05		
228	48-UZ-501 : FREE WATER KO TANK T-4817							
229	48-UZ-501 : FREE WATER KO TANK T-4817			JULY'00				
230	SPARE				JUN'01	DELETED		
231								
232								
233								
234								
235								
236	48-UZ-502 : WET CRUDE TRANSFER PUMP P-4868	JULY.97	DEC. 98					
237	48-UZ-502 : WET CRUDE TRANSFER PUMP P-4868							
238	48-UZ-502 : WET CRUDE TRANSFER PUMP P-4868							
239	48-UZ-502 : WET CRUDE TRANSFER PUMP P-4868				JUN'01	APR'05		
240	48-UZ-502 : WET CRUDE TRANSFER PUMP P-4868							
241	48-UZ-502 : WET CRUDE TRANSFER PUMP P-4868				JUN'01			
242	48-UZ-502 : WET CRUDE TRANSFER PUMP P-4868							
243	SPARE							
244								
245								

SHEET NO.	DESCRIPTION	REV.0	REV.B	REV.G	REV.H	REV.N	REV.U	REV.V
246	SPARE							
247								
248	48-UZ-503 : WET CRUDE TRANSFER PUMP P-4869	JULY.97		DEC. 98				
249	48-UZ-503 : WET CRUDE TRANSFER PUMP P-4869							
250	48-UZ-503 : WET CRUDE TRANSFER PUMP P-4869							
251	48-UZ-503 : WET CRUDE TRANSFER PUMP P-4869		APR.98			JUN'01	APR'05	
252	48-UZ-503 : WET CRUDE TRANSFER PUMP P-4869		APR.98					
253	48-UZ-503 : WET CRUDE TRANSFER PUMP P-4869		APR.98			JUN'01		
254	48-UZ-503 : WET CRUDE TRANSFER PUMP P-4869				DEC. 98			
255	SPARE							
256								
257								
258								
259								
260	48-UZ-504 : WET CRUDE TRANSFER PUMP P-4870	JULY.97		DEC. 98				
261	48-UZ-504 : WET CRUDE TRANSFER PUMP P-4870							
262	48-UZ-504 : WET CRUDE TRANSFER PUMP P-4870							
263	48-UZ-504 : WET CRUDE TRANSFER PUMP P-4870		APR.98			JUN'01	APR'05	
264	48-UZ-504 : WET CRUDE TRANSFER PUMP P-4870		APR.98					
265	48-UZ-504 : WET CRUDE TRANSFER PUMP P-4870		APR.98			JUN'01		
266	48-UZ-504 : WET CRUDE TRANSFER PUMP P-4870				DEC. 98			
267	SPARE							
268								
269								
270								
271								
272		JULY.97		DEC. 98			DELETED	
273								
274								
275			APR.98			JUN'01		
276			APR.98					
277			APR.98			JUN'01		
278					DEC. 98			
279								
280			APR.98	DEC. 98			DELETED	

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG. (PDO APPROVAL)	SPEC.ENG. (PDO APPROVAL)
V	NOV.'08	ASD	AS BUILT UP TO NOV.'08	OT.08.005	OSO/22N	SK
U	APR.05		AS BUILT FOR PROJ.'5X'	02.001		BW
N	JUN'01		AS BUILT FOR PROJ.'2W'	99.614	ONE/22	
M	JULY'00		AS BUILT FOR PROJ.7G,2Y,2Z	00.826	ONE/23	
G	DEC.98		AS BUILT UP TO DEC.98	98.061	ONE/24	
F	DEC.98		AS BUILT FOR PROJECT R9	92.640	ONE/24	
D	SEP.98		AS BUILT FOR PROJECT V2	92.640	ONE/24	

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

REV	DATE	DRAWN BY	TEAML. (CHECKED)	J.ENG. (CHECKED)	DESCRIPTION	B.I. NO	PROJ. ENG. (P D O APPROVAL)	SIGNATURE (P D O APPROVAL)

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

AREA : NIMR

SUB AREA : PRODUCTION STATION — NO. 05

DRWG.TYPE : SGS FUNCTIONAL LOGIC DIAGRAM

DESCRIPTION : REVISION / INDEX SHEET

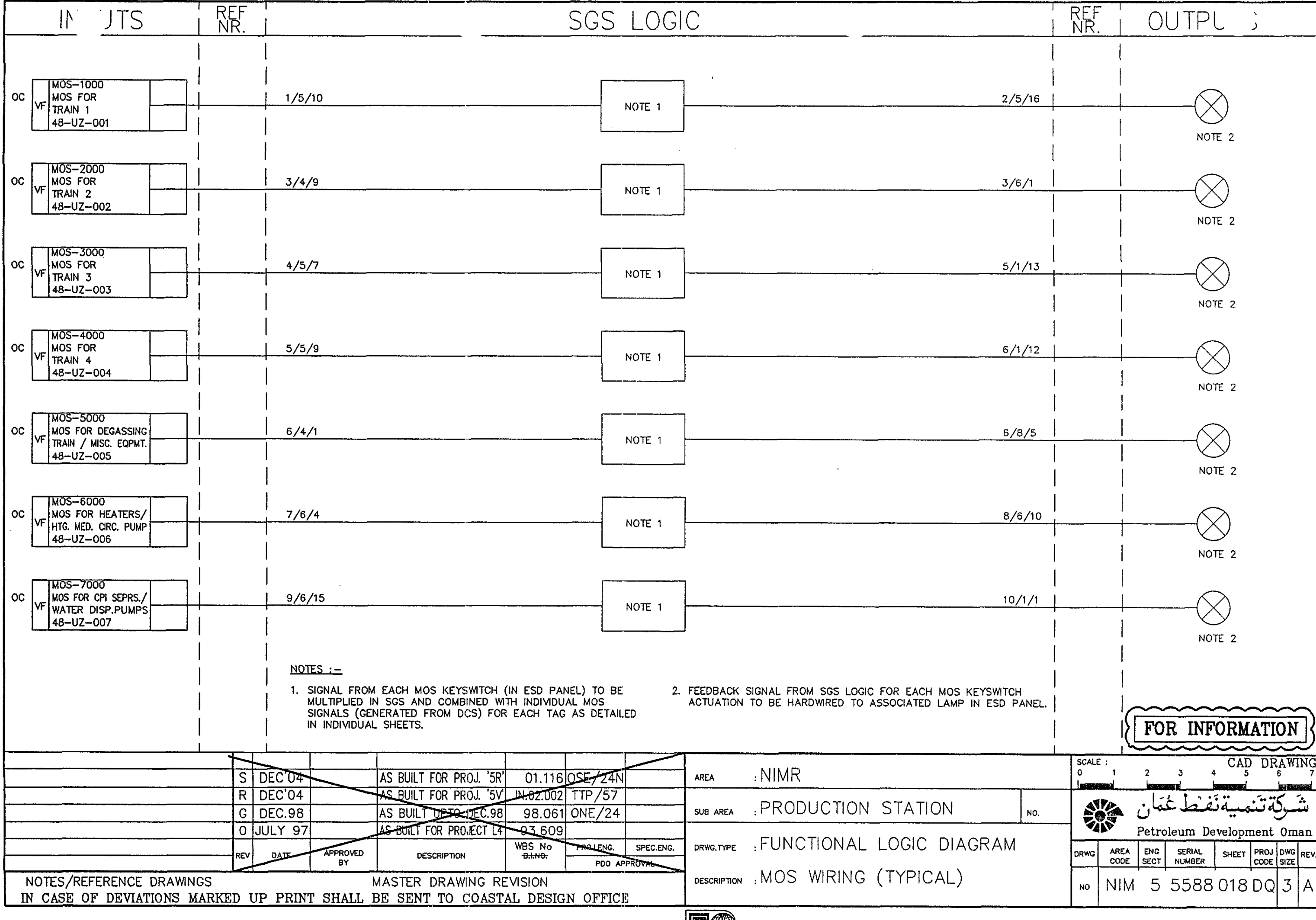
SCALE : 0 1 2 3 4 5 6 7 — CAD DRAWING

شركة تنمية نفط عمان

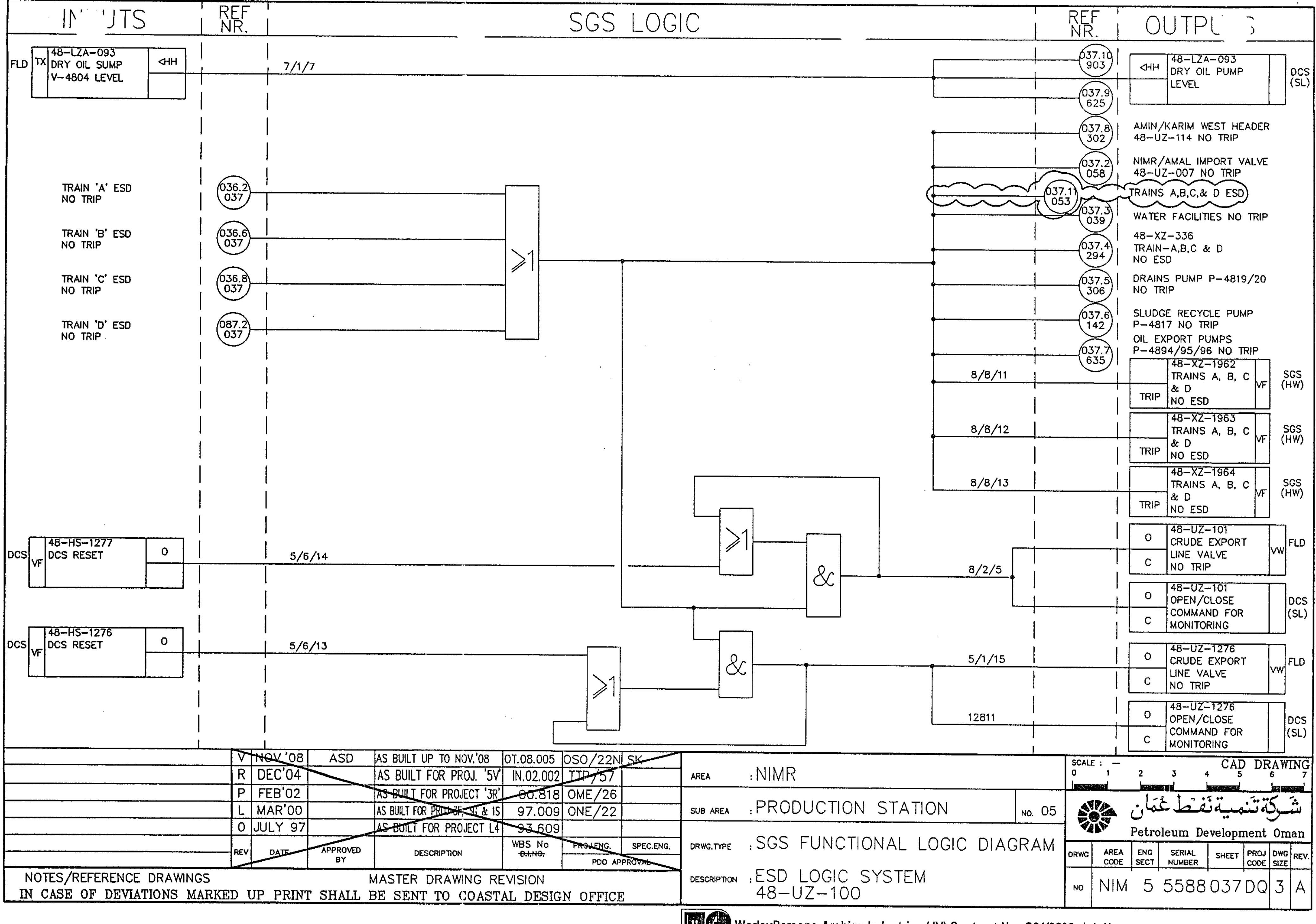
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5588	005	DQ	3	A

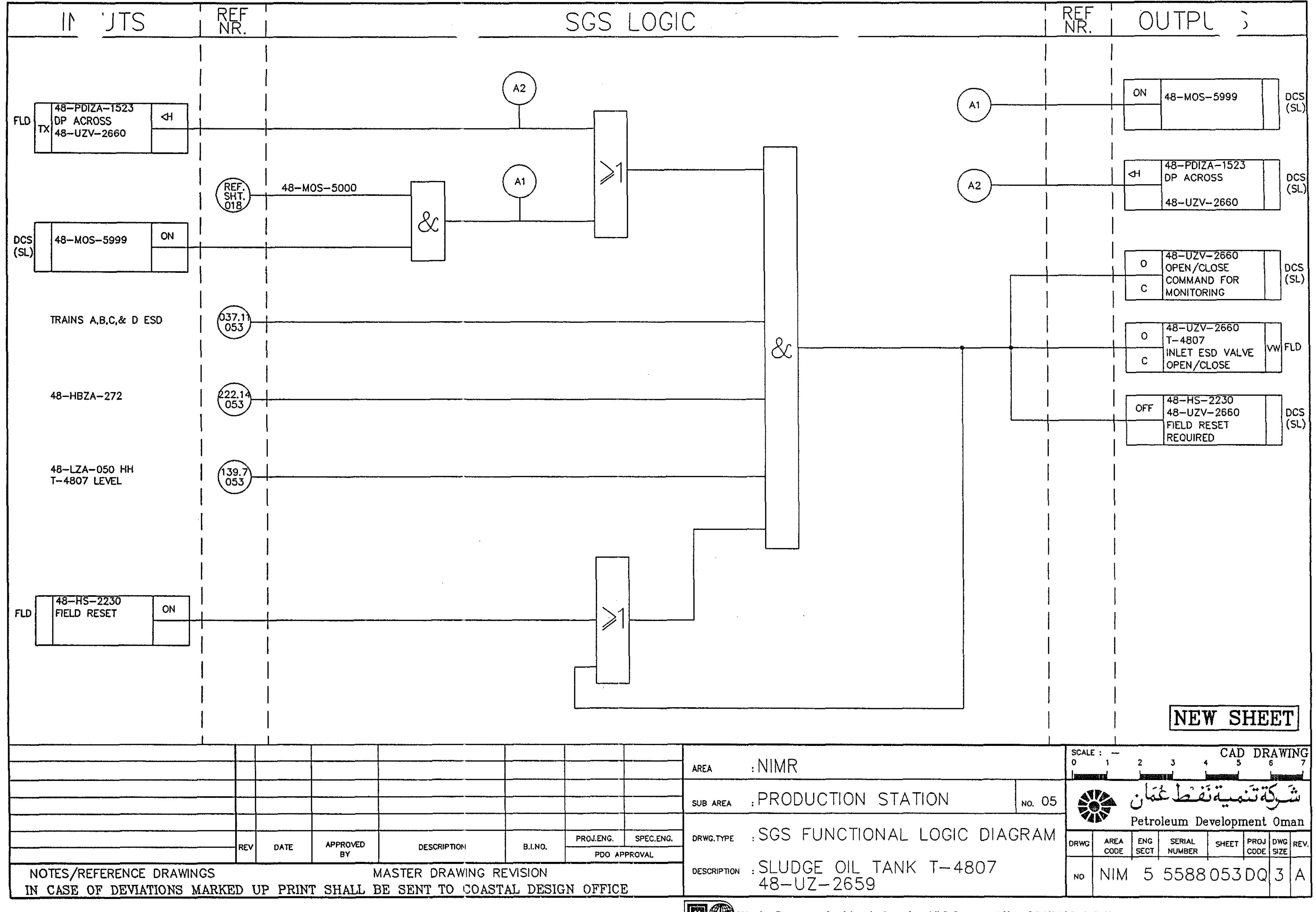
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



INPUTS
REF NR.
SGS LOGIC
REF NR.
OUTPUTS
OC VF MOS-1000 MOS FOR TRAIN 1 48-UZ-001
1/5/10
NOTE 1
2/5/16
NOTE 2
OC VF MOS-2000 MOS FOR TRAIN 2 48-UZ-002
3/4/9
NOTE 1
3/6/1
NOTE 2
OC VF MOS-3000 MOS FOR TRAIN 3 48-UZ-003
4/5/7
NOTE 1
5/1/13
NOTE 2
OC VF MOS-4000 MOS FOR TRAIN 4 48-UZ-004
5/5/9
NOTE 1
6/1/12
NOTE 2
OC VF MOS-5000 MOS FOR DEGASSING TRAIN / MISC. EQPMT. 48-UZ-005
6/4/1
NOTE 1
6/8/5
NOTE 2
OC VF MOS-6000 MOS FOR HEATERS/ HTG. MED. CIRC. PUMP 48-UZ-006
7/6/4
NOTE 1
8/6/10
NOTE 2
OC VF MOS-7000 MOS FOR CPI SEPRS./ WATER DISP.PUMPS 48-UZ-007
9/6/15
NOTE 1
10/1/1
NOTE 2
NOTES :-
1. SIGNAL FROM EACH MOS KEYSWITCH (IN ESD PANEL) TO BE MULTIPLIED IN SGS AND COMBINED WITH INDIVIDUAL MOS SIGNALS (GENERATED FROM DCS) FOR EACH TAG AS DETAILED IN INDIVIDUAL SHEETS.
2. FEEDBACK SIGNAL FROM SGS LOGIC FOR EACH MOS KEYSWITCH ACTUATION TO BE HARDWIRED TO ASSOCIATED LAMP IN ESD PANEL.
FOR INFORMATION
S DEC'04 AS BUILT FOR PROJ. '5R' 01.116 OSE/24N
R DEC'04 AS BUILT FOR PROJ. '5V' IN.02.002 TTP/57
G DEC.98 AS BUILT UPTO DEC.98 98.061 ONE/24
0 JULY 97 AS BUILT FOR PROJECT L4 93.609
REV DATE APPROVED BY DESCRIPTION WBS No B.I.NO. PROJ.ENG. SPEC.ENG. PDO APPROVAL
NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : PRODUCTION STATION
NO.
DRWG.TYPE : FUNCTIONAL LOGIC DIAGRAM
DESCRIPTION : MOS WIRING (TYPICAL)
SCALE : 0 1 2 3 4 5 6 7
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO AREA CODE ENG SECT SERIAL NUMBER SHEET PROJ CODE DWG SIZE REV.
NIM 5 5588 018 DQ 3 A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
					PDO APPROVAL	

NOTES/REFERENCE DRAWINGS MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : SGS FUNCTIONAL LOGIC DIAGRAM

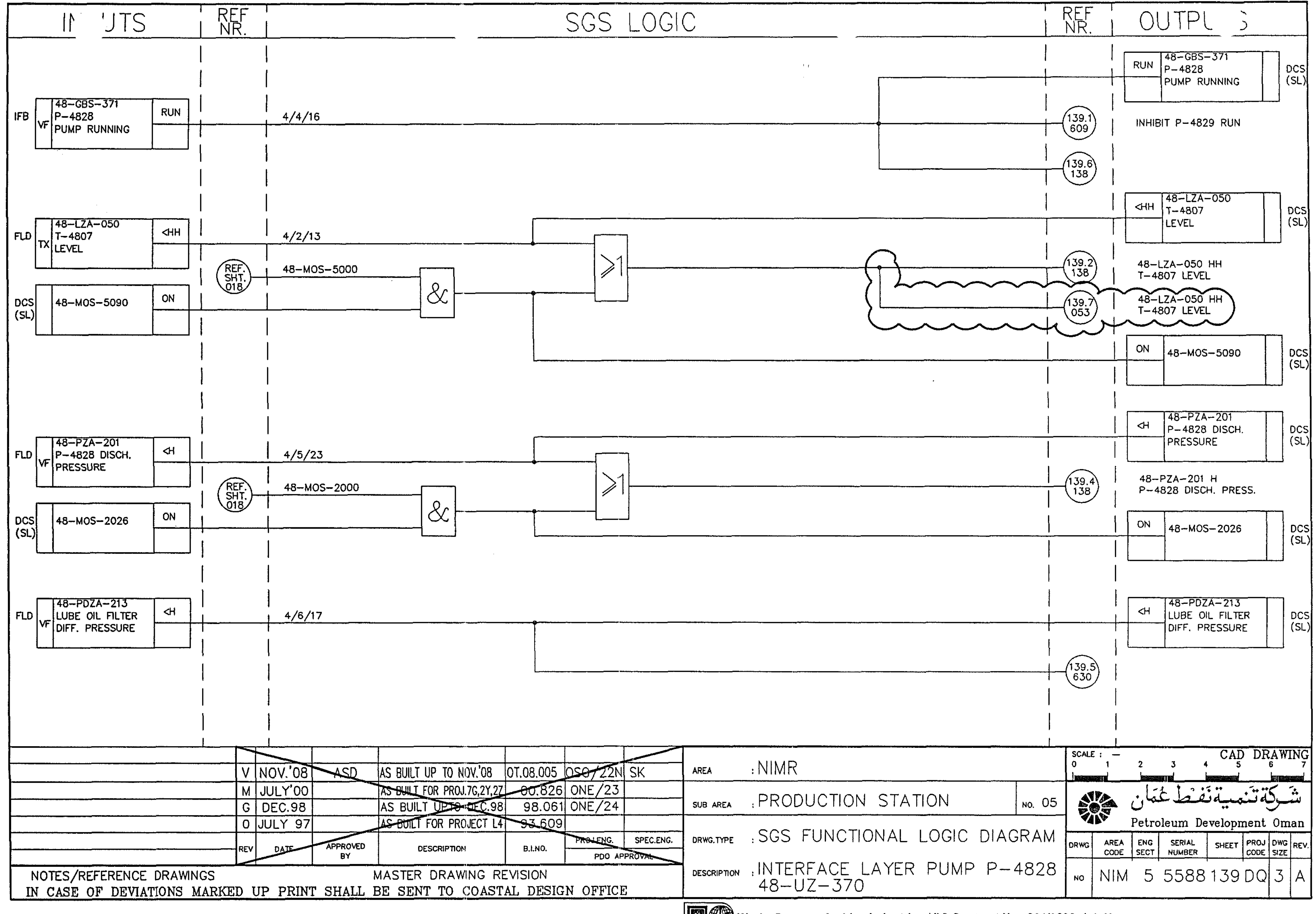
DESCRIPTION : SLUDGE OIL TANK T-4807 48-UZ-2659

SCALE : — CAD DRAWING 0 1 2 3 4 5 6 7

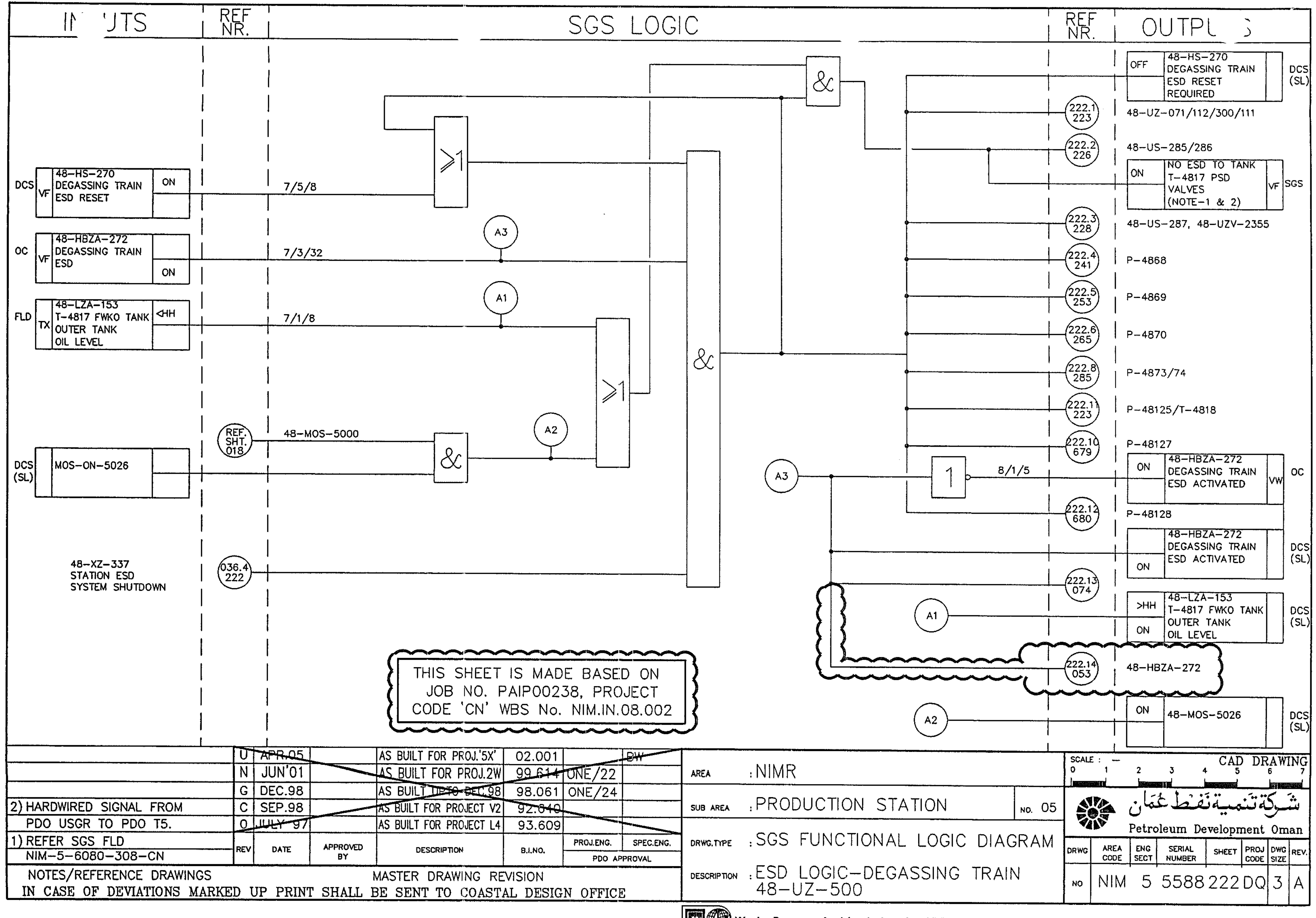
شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5588	053	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
U	APR.05		AS BUILT FOR PROJ.'5X'	02.001		DW
N	JUN'01		AS BUILT FOR PROJ.2W	99.614	ONE/22	
G	DEC.98		AS BUILT UPTO DEC.98	98.061	ONE/24	
C	SEP.98		AS BUILT FOR PROJECT V2	92.640		
0	JULY 97		AS BUILT FOR PROJECT L4	93.609		

PDO APPROVAL

MASTER DRAWING REVISION

NOTES/REFERENCE DRAWINGS

1) REFER SGS FLD NIM-5-6080-308-CN

2) HARDWIRED SIGNAL FROM PDO USGR TO PDO T5.

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : SGS FUNCTIONAL LOGIC DIAGRAM

DESCRIPTION : ESD LOGIC-DEGASSING TRAIN 48-UZ-500

SCALE : — CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5588	222	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

INSTRUMENT LOOP DIAGRAMS

NIMR SLUDGE PIT FACILITY

APPROVED FOR CONSTRUCTION

THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJECT 'DQ' WBS No. NIM.IN.09.011

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	B.I. NO	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	SEPT.'11	SUAD			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/23N	
0	MAY.'11	NS	SG	SJ	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PDO APPROVAL PROJ.ENG.	PDO APPROVAL SPEC.ENG.
–						

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT NO. 05

DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS

DESCRIPTION : COVER SHEET

SCALE : 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4745	001	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

DESCRIPTION	SHEET	REV O	REV A	REV B	REV C	REV D	REV E
COVER SHEET	001	MAY '11	SEPT.'11				
REVISION/INDEX SHEET	002	MAY '11	SEPT.'11				
SPARE	003						
SPARE	004						
SPARE	005						
48LIA-1447	006	MAY '11	SEPT.'11				
48LIZA-1448	007	MAY '11	SEPT.'11				
48TIA-1468	008	MAY '11	SEPT.'11				
48FI-1414	009	MAY '11	SEPT.'11				
SPARE	010						
SPARE	011						
48LIZA-1451	012	MAY '11	SEPT.'11				
48LIA-1452	013	MAY '11	SEPT.'11				
48PIZA-1516	014	MAY '11	SEPT.'11				
48PDIA-1520	015	MAY '11	SEPT.'11				
48PDIA-1521	016	MAY '11	SEPT.'11				
SPARE	017						
SPARE	018						
SPARE	019						
48XZA-2342	020	MAY '11	SEPT.'11				
48XZA-2343	021	MAY '11	SEPT.'11				
48HS-2219A/B	022	MAY '11	SEPT.'11				
48HS-2658	023	MAY '11	SEPT.'11				
48HS-2220A/B	024	MAY '11	SEPT.'11				
48HS-2660	025	MAY '11	SEPT.'11				
SPARE	026						
SPARE	027						
48XA-4106	028	MAY '11	SEPT.'11				
SPARE	029						
48HS-2661A/B	030	MAY '11	SEPT.'11				
48HS-2662A/B	031	MAY '11	SEPT.'11				
48HS-2663	032	MAY '11	SEPT.'11				
48HS-2664	033	MAY '11	SEPT.'11				
SPARE	034						

DESCRIPTION	SHEET	REV O	REV A	REV B	REV C	REV D	REV E
	035						
	036						
48LICA-1449	037	MAY '11	SEPT.'11				
48LIZA-1450	038	MAY '11	SEPT.'11				
48PIZA-1518	039	MAY '11	SEPT.'11				
48PIZA-1519	040	MAY '11	SEPT.'11				
48PI-1522	041	MAY '11	SEPT.'11				
48FI-1415	042	MAY '11	SEPT.'11				
	043						
	044						
CONNECTION BETWEEN CI SKID & RTU	045	MAY '11	SEPT.'11				
	046						
	047						
	048						
	049						
48HS-2664A/B START/STOP	050	MAY '11	SEPT.'11				
48HS-2663A/B START/STOP	051	MAY '11	SEPT.'11				
48HS-2660A/B START/STOP	052	MAY '11	SEPT.'11				
48HS-2658A/B START/STOP	053	MAY '11	SEPT.'11				
	054						
	055						
48GB-2656 RUNNING INDICATION	056	MAY '11	SEPT.'11				
48GB-2657 RUNNING INDICATION	057	MAY '11	SEPT.'11				
48GB-2658 RUNNING INDICATION	058	MAY '11	SEPT.'11				
48GB-2659 RUNNING INDICATION	059	MAY '11	SEPT.'11				
	060						
	061						
	062						
	063						
	064						
	065						
	066						
	067						
	068						

REV	DATE	DRAWN BY	TEAML.	J.ENG.	DESCRIPTION	B.I. NO	PROJ. ENG.	SIGNATURE
			CHECKED				P D O APPROVAL	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
					PDO APPROVAL	

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

SCALE : 0 1 2 3 4 5 6 7

CAD DRAWING

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT NO. 05

DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS

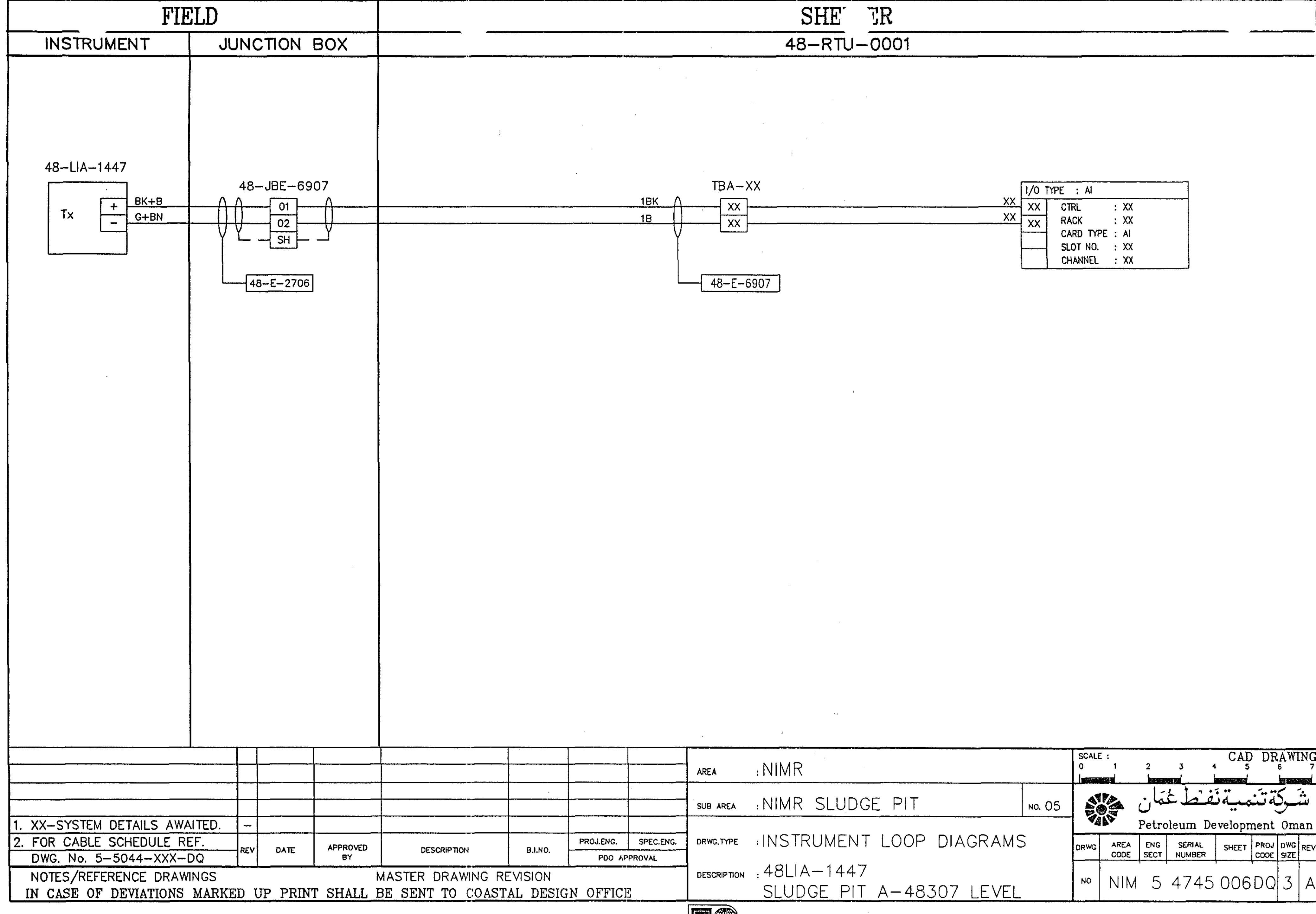
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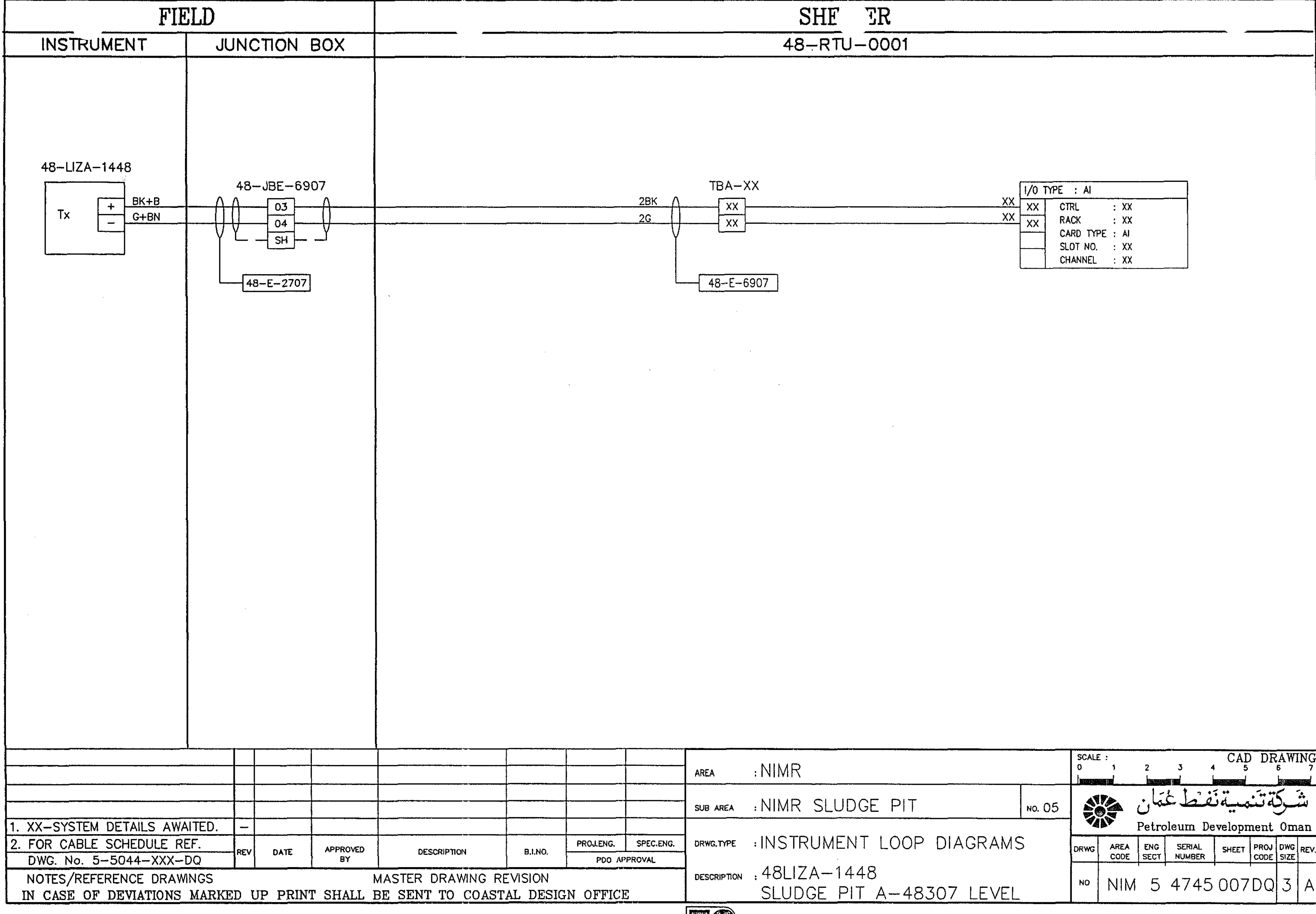
شركة تنمية نفط عمان

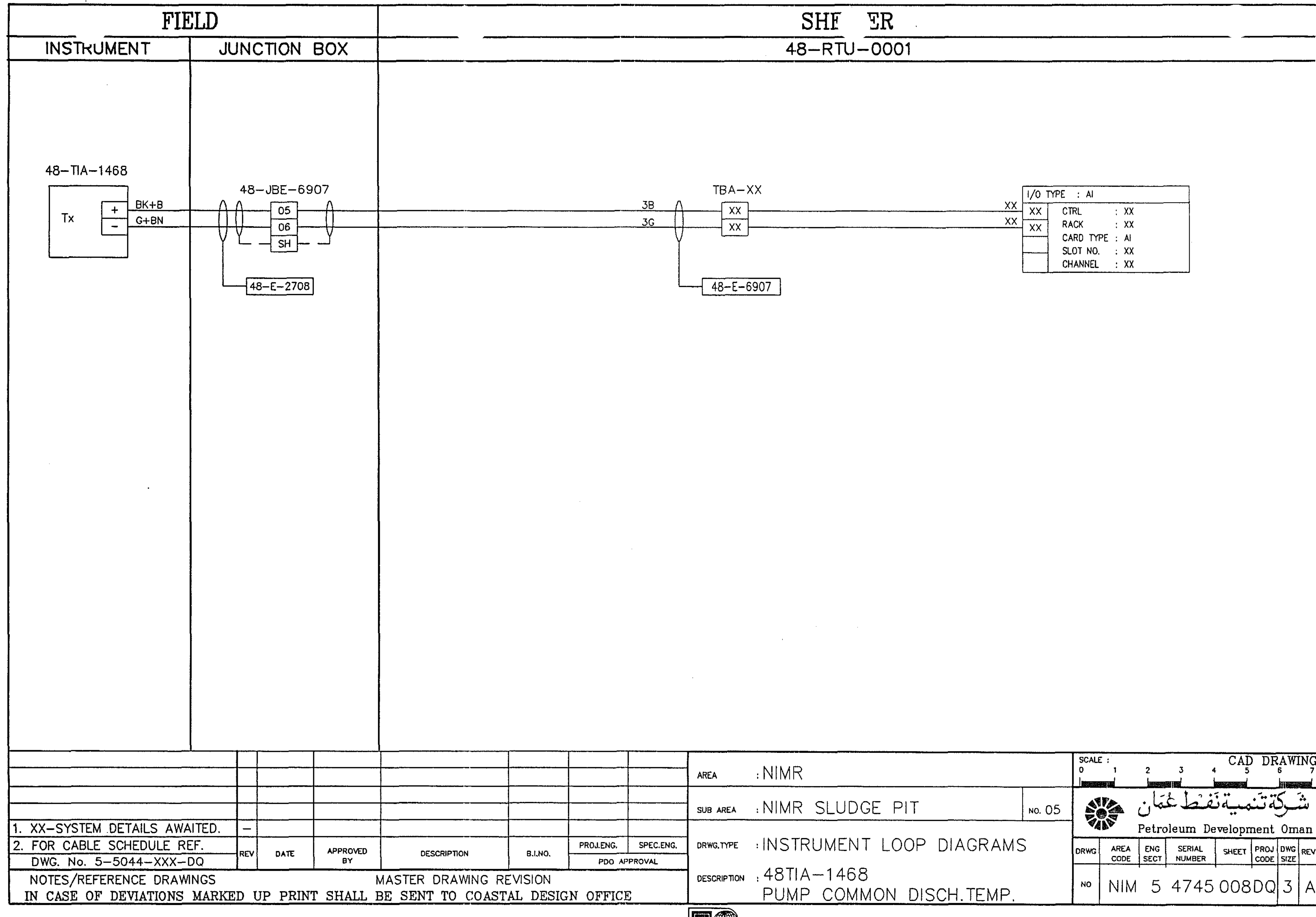
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4745	002	DQ	3	A

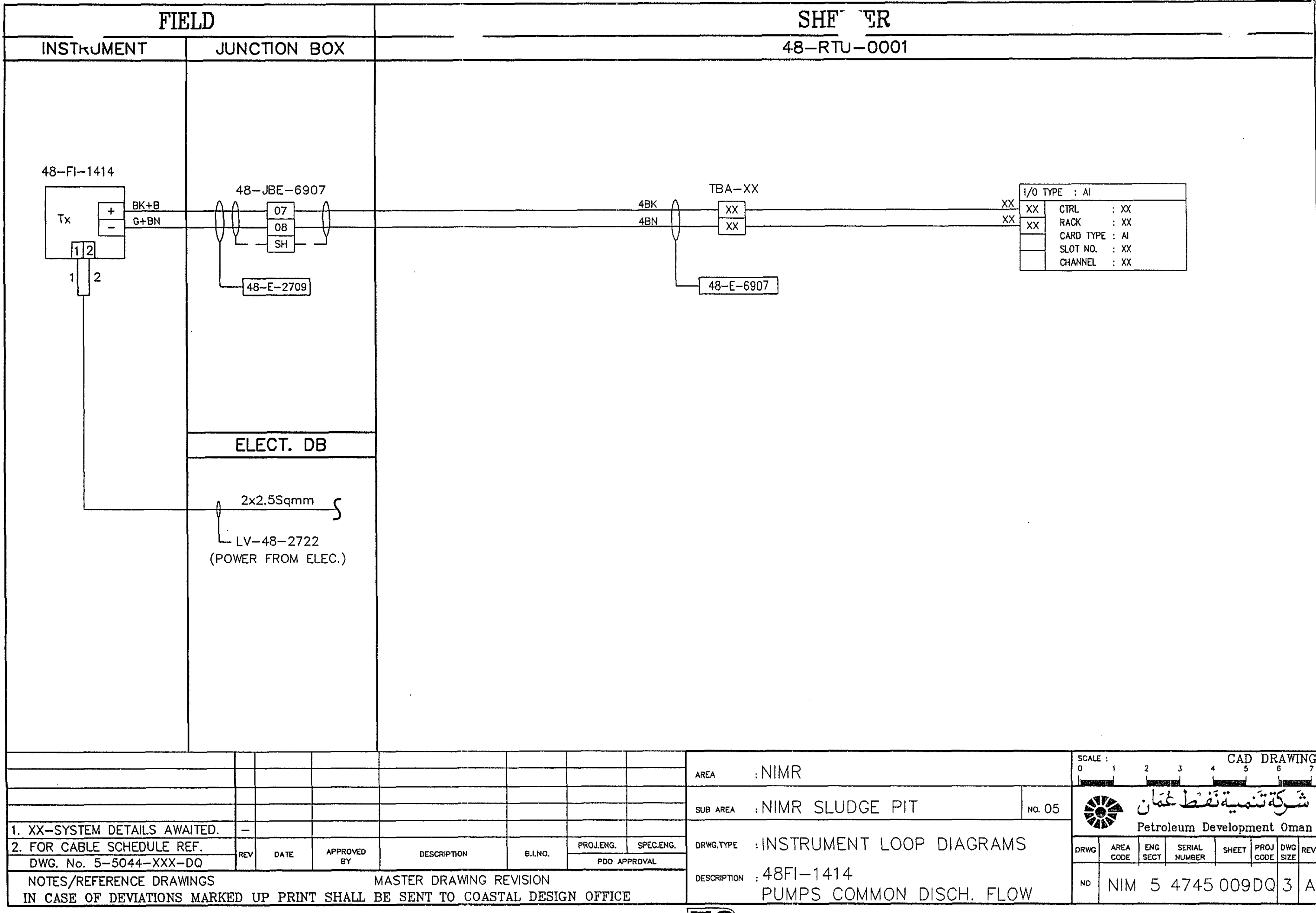
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

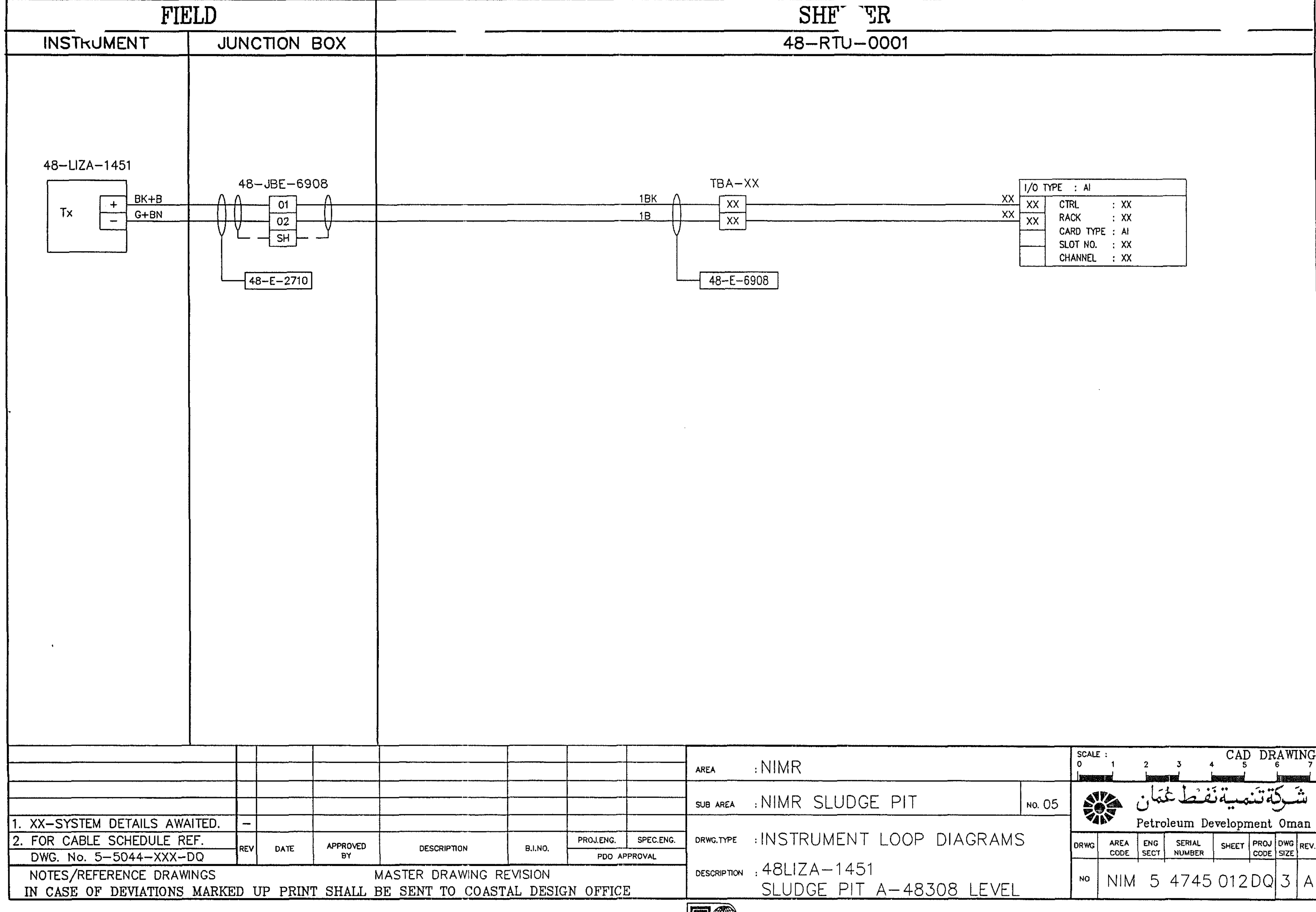

FIELD
SHE' 'ER
INSTRUMENT
JUNCTION BOX
48-RTU-0001
48-LIA-1447
Tx
+
-
BK+B
G+BN
48-JBE-6907
01
02
SH
48-E-2706
1BK
1B
TBA-XX
XX
XX
48-E-6907
XX
XX
I/O TYPE : AI
XX
XX
CTRL : XX
RACK : XX
CARD TYPE : AI
SLOT NO. : XX
CHANNEL : XX
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF.
DWG. No. 5-5044-XXX-DQ
–
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG. TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48LIA-1447
SLUDGE PIT A-48307 LEVEL
SCALE :
0 1 2 3 4 5 6 7
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NO
NIM
5
4745
006
DQ
3
A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405


FIELD
SHE ER
INSTRUMENT
JUNCTION BOX
48-RTU-0001
48-LIZA-1448
Tx
+
−
BK+B
G+BN
48-JBE-6907
03
04
SH
48-E-2707
2BK
2G
TBA-XX
XX
XX
48-E-6907
XX
XX
I/0 TYPE : AI
XX
XX
CTRL : XX
RACK : XX
CARD TYPE : AI
SLOT NO. : XX
CHANNEL : XX
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF.
DWG. No. 5-5044-XXX-DQ
−
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48LIZA-1448
SLUDGE PIT A-48307 LEVEL
SCALE :
0 1 2 3 4 5 6 7
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NO
NIM
5
4745
007
DQ
3
A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



FIELD
SHF ER
INSTRUMENT
JUNCTION BOX
48-RTU-0001
48-TIA-1468
Tx
BK+B
G+BN
48-JBE-6907
05
06
SH
48-E-2708
3B
3G
TBA-XX
XX
XX
48-E-6907
I/O TYPE : AI
CTRL : XX
RACK : XX
CARD TYPE : AI
SLOT NO. : XX
CHANNEL : XX
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF.
DWG. No. 5-5044-XXX-DQ
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48TIA-1468
PUMP COMMON DISCH.TEMP.
SCALE :
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NIM 5 4745 008 DQ 3 A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405


FIELD
SHELTER
INSTRUMENT
JUNCTION BOX
48–RTU–0001
48–FI–1414
Tx
BK+B
G+BN
48–JBE–6907
07
08
SH
48–E–2709
4BK
4BN
TBA–XX
XX
48–E–6907
I/0 TYPE : AI
CTRL : XX
RACK : XX
CARD TYPE : AI
SLOT NO. : XX
CHANNEL : XX
ELECT. DB
2x2.5Sqmm
LV–48–2722
(POWER FROM ELEC.)
1. XX–SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF.
DWG. No. 5–5044–XXX–DQ
NOTES/REFERENCE DRAWINGS
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48FI–1414
PUMPS COMMON DISCH. FLOW
SCALE :
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NIM 5 4745 009DQ 3 A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF. DWG. No. 5-5044-XXX-DQ

NOTES/REFERENCE DRAWINGS

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
–						

PDO APPROVAL

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT NO. 05

DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS

DESCRIPTION : 48LIZA-1451 SLUDGE PIT A-48308 LEVEL

SCALE : 0 1 2 3 4 5 6 7

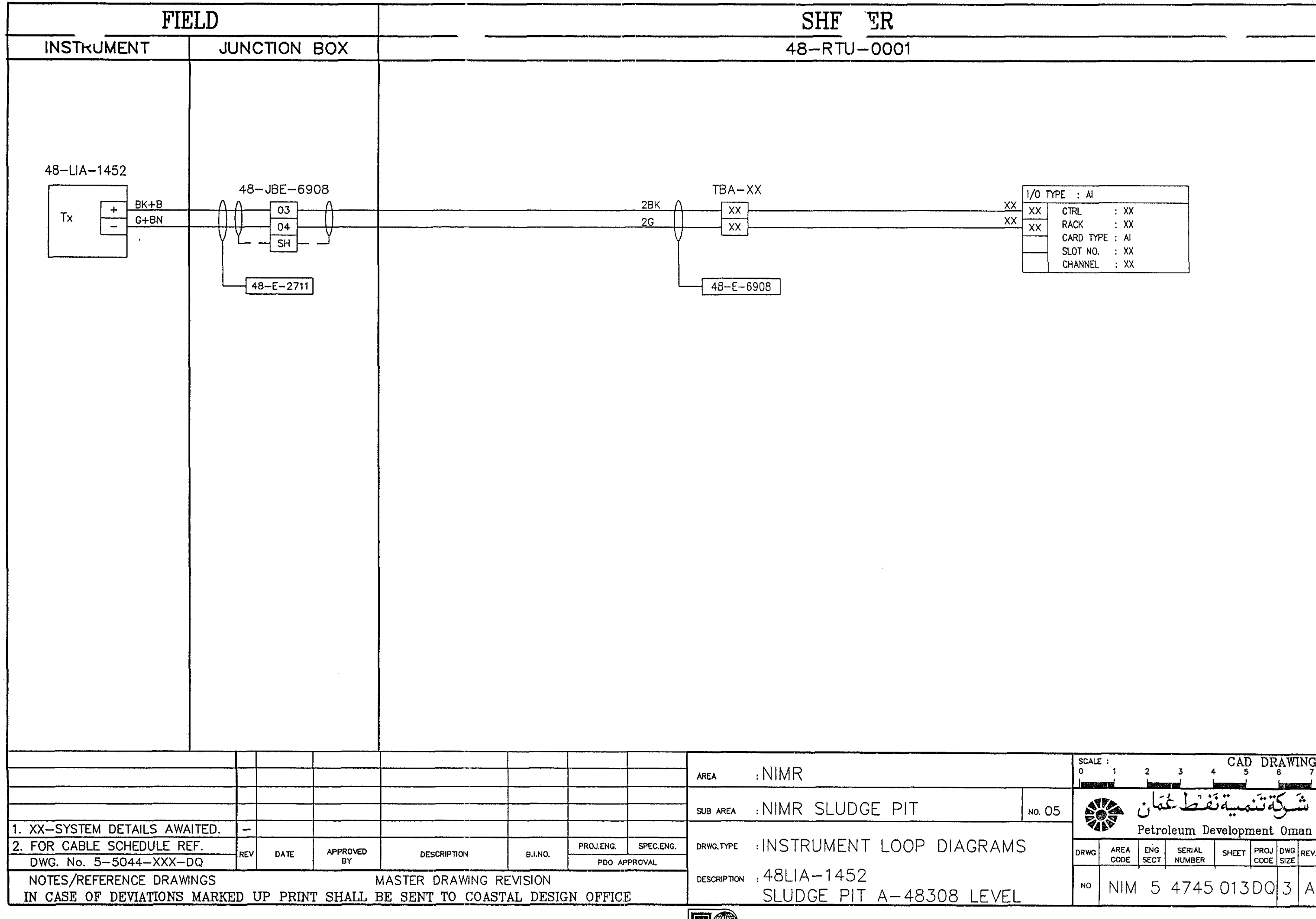
CAD DRAWING

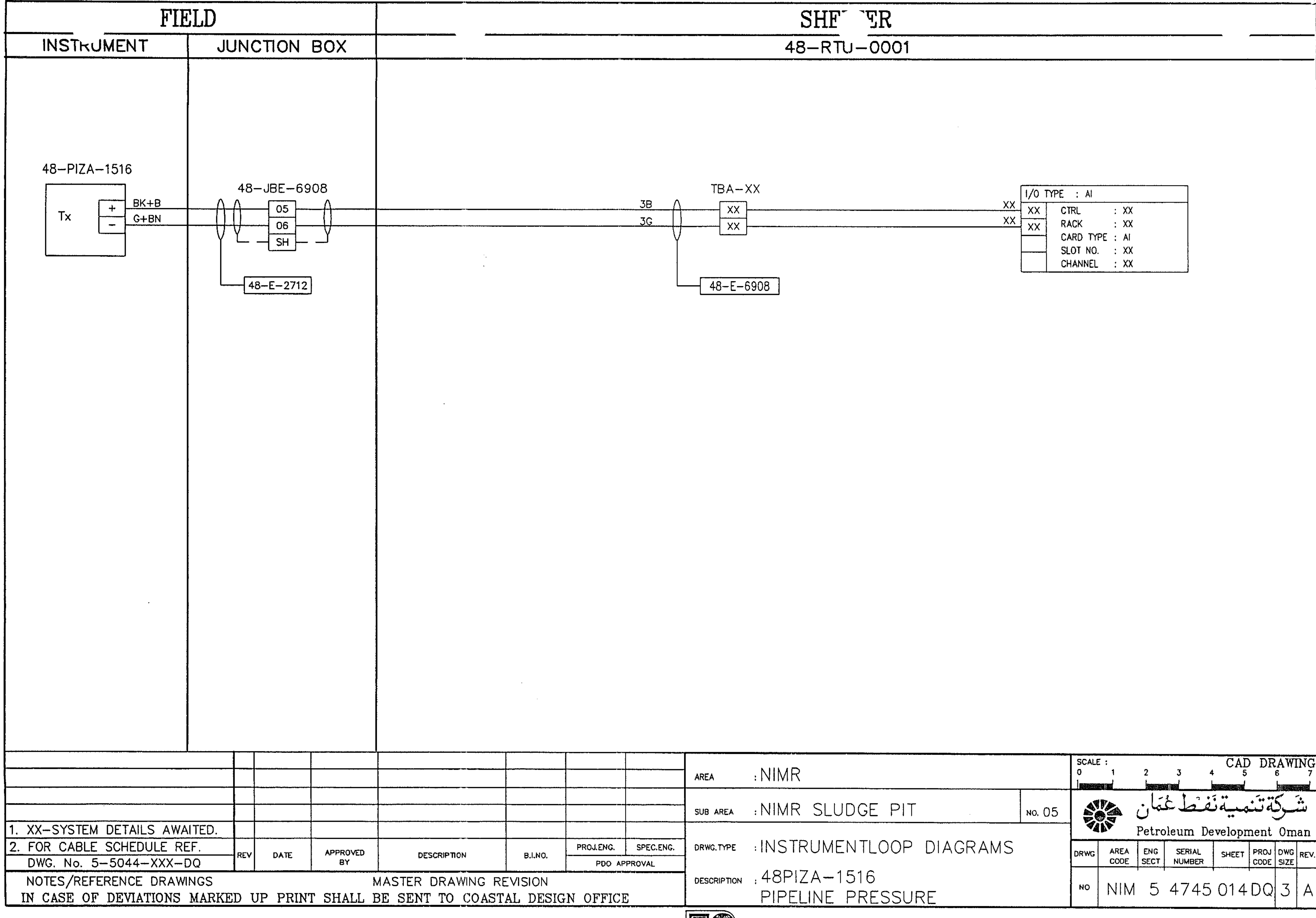
شركة تنمية نفط عمان

Petroleum Development Oman

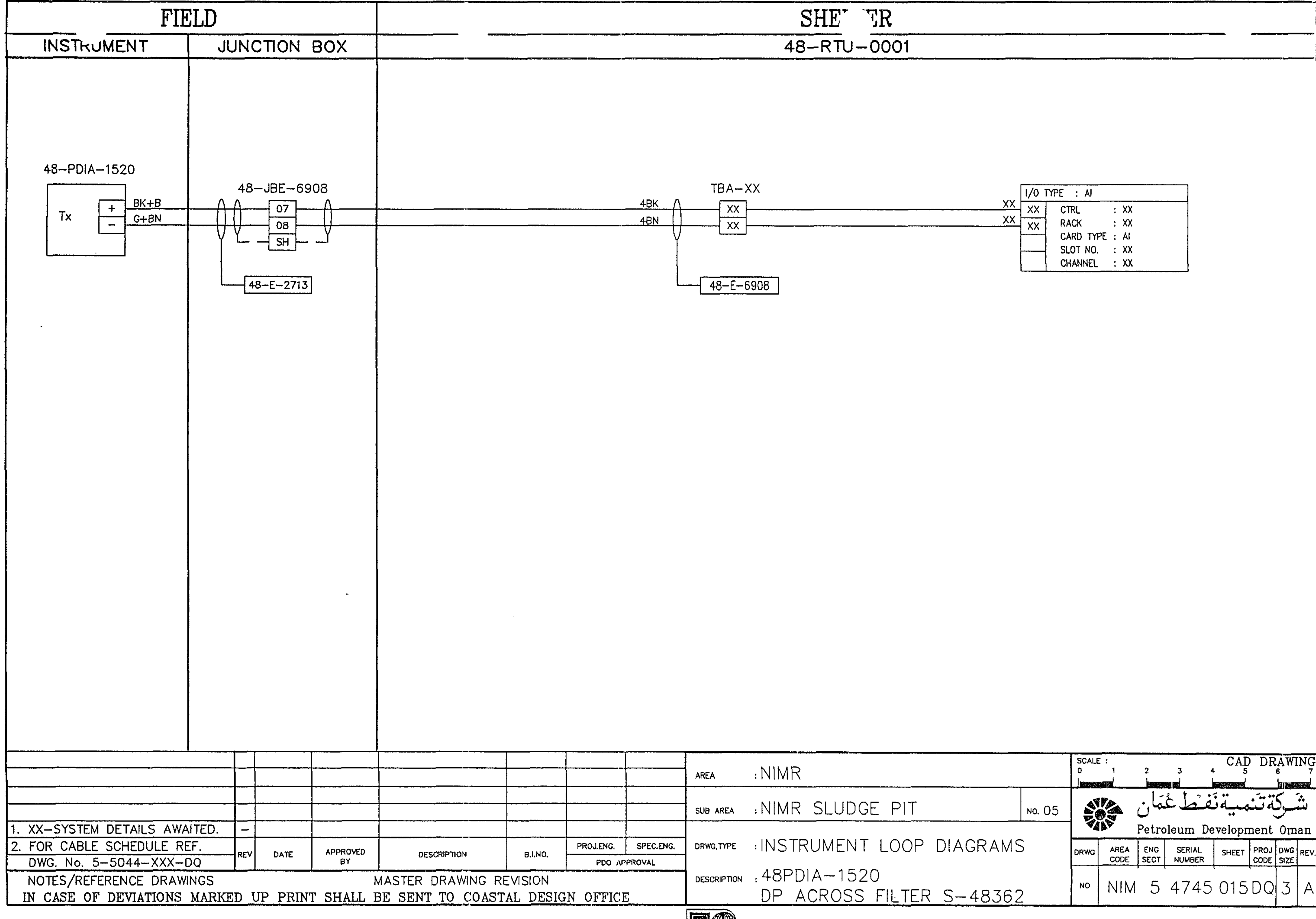
DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4745	012	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

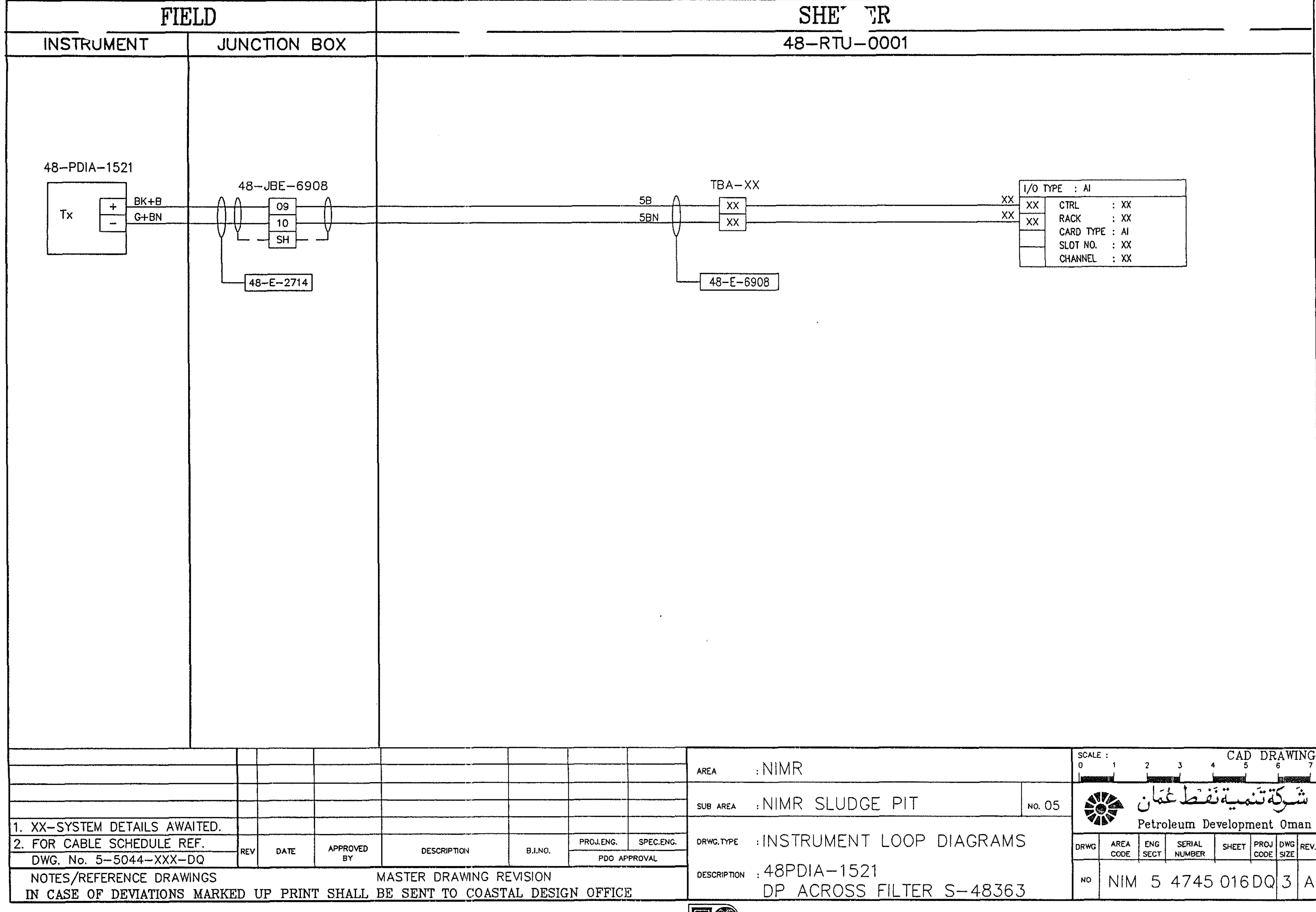

FIELD
INSTRUMENT
JUNCTION BOX
48-RTU-0001
48-LIA-1452
Tx
+
−
BK+B
G+BN
48-JBE-6908
03
04
SH
48-E-2711
2BK
2G
TBA-XX
XX
XX
48-E-6908
XX
XX
I/O TYPE : AI
XX
XX
CTRL : XX
RACK : XX
CARD TYPE : AI
SLOT NO. : XX
CHANNEL : XX
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF.
DWG. No. 5-5044-XXX-DQ
NOTES/REFERENCE DRAWINGS
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48LIA-1452
SLUDGE PIT A-48308 LEVEL
SCALE :
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NIM 5 4745 013 DQ 3 A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



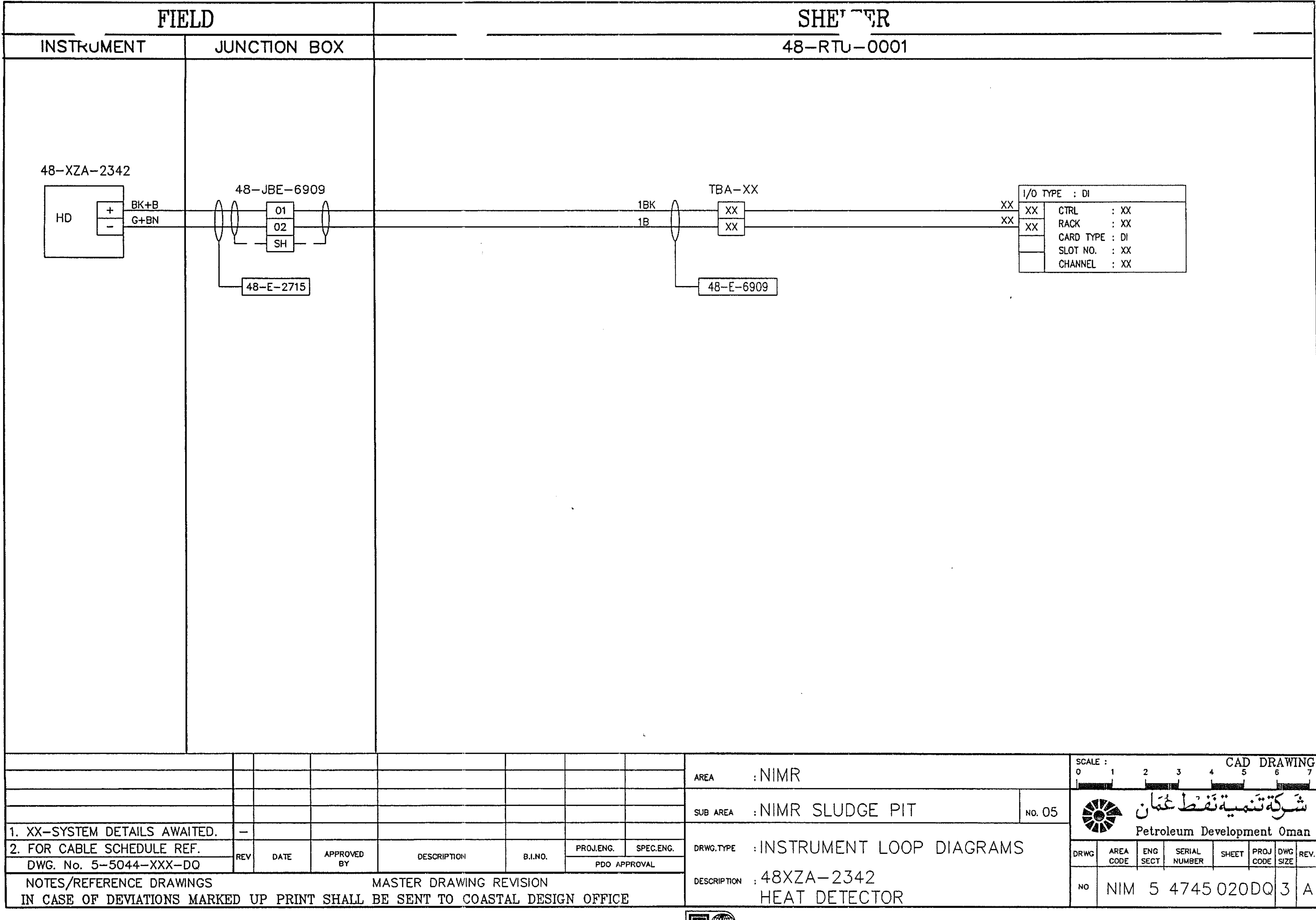
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



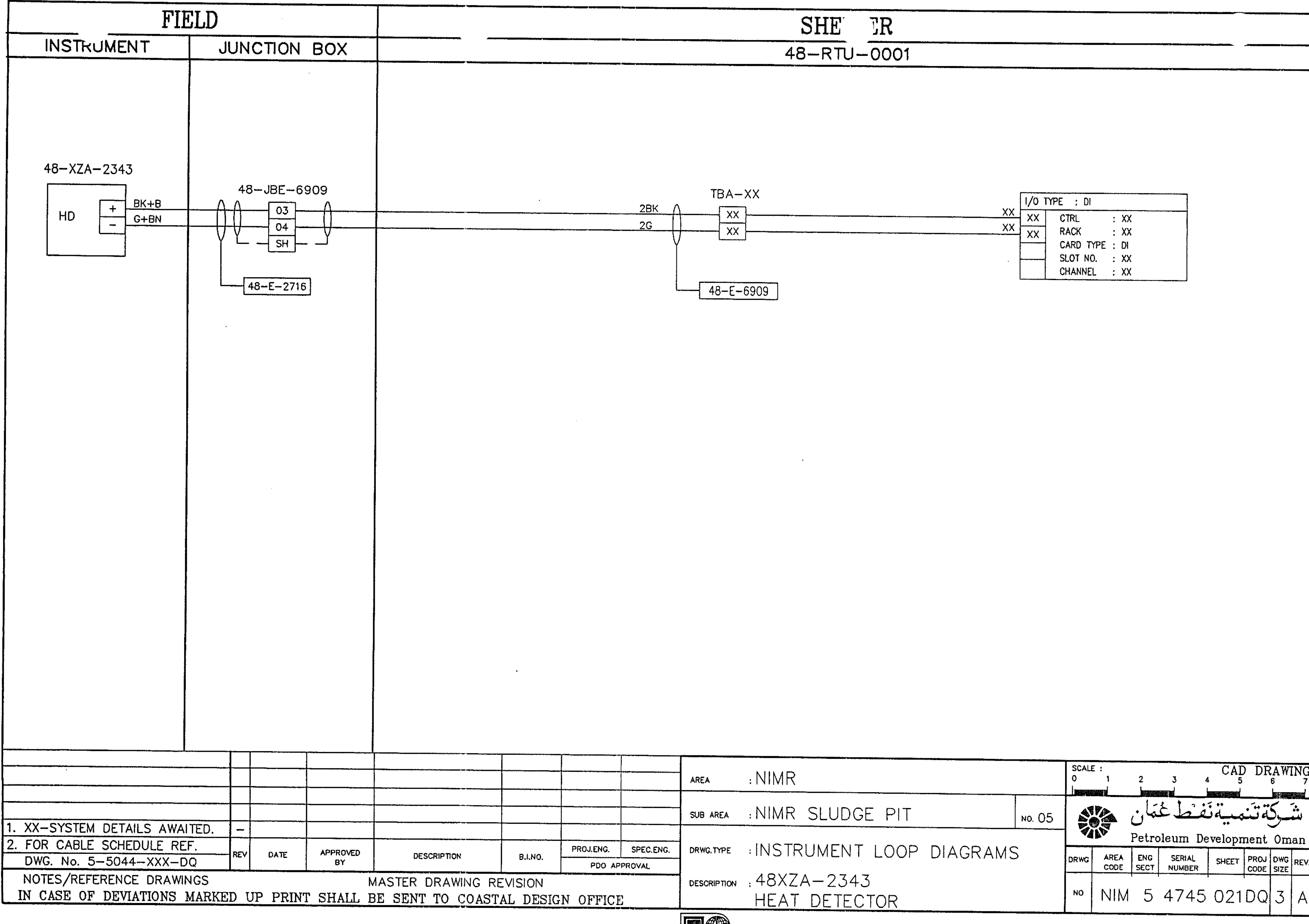
FIELD
SHE' 'ER
INSTRUMENT
JUNCTION BOX
48-RTU-0001
48-PDIA-1520
Tx
+
−
BK+B
G+BN
48-JBE-6908
07
08
SH
48-E-2713
4BK
4BN
TBA-XX
XX
XX
48-E-6908
XX
XX
I/0 TYPE : AI
CTRL : XX
RACK : XX
CARD TYPE : AI
SLOT NO. : XX
CHANNEL : XX
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF.
DWG. No. 5-5044-XXX-DQ
NOTES/REFERENCE DRAWINGS
−
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48PDIA-1520
DP ACROSS FILTER S-48362
SCALE :
0 1 2 3 4 5 6 7
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NO
NIM
5
4745
015
DQ
3
A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

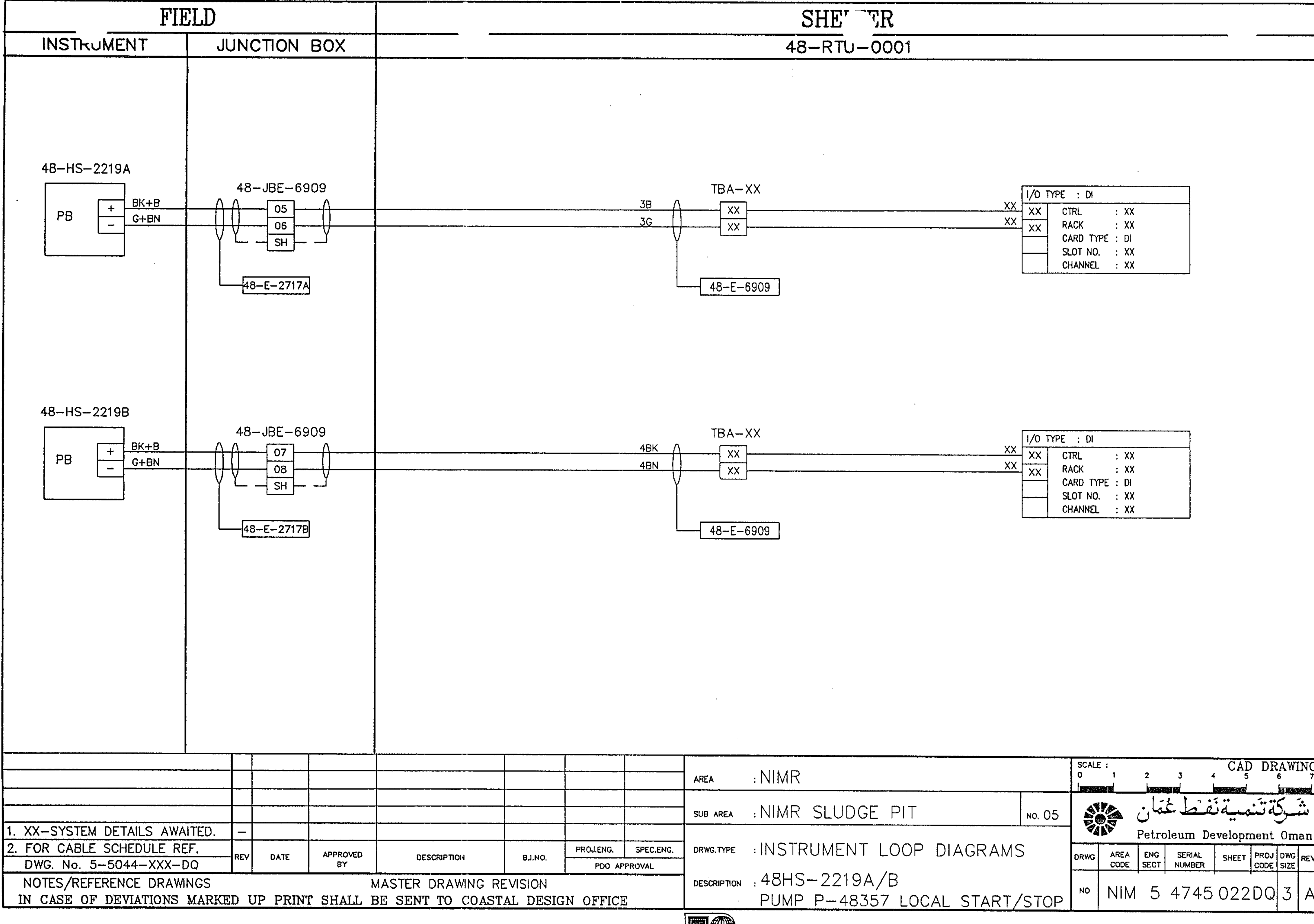


FIELD
SHE' 'ER
INSTRUMENT
JUNCTION BOX
48-RTU-0001
48-PDIA-1521
Tx
+
-
BK+B
G+BN
48-JBE-6908
09
10
SH
48-E-2714
5B
5BN
TBA-XX
XX
XX
48-E-6908
XX
XX
I/O TYPE : AI
CTRL : XX
RACK : XX
CARD TYPE : AI
SLOT NO. : XX
CHANNEL : XX
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF.
DWG. No. 5-5044-XXX-DQ
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48PDIA-1521
DP ACROSS FILTER S-48363
SCALE :
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NIM 5 4745 016 DQ 3 A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405


FIELD
INSTRUMENT
JUNCTION BOX
SHE ER
48-RTU-0001
48-XZA-2343
HD
+
-
BK+B
G+BN
48-JBE-6909
03
04
SH
48-E-2716
2BK
2G
TBA-XX
XX
XX
48-E-6909
XX
XX
I/O TYPE : DI
XX
XX
CTRL : XX
RACK : XX
CARD TYPE : DI
SLOT NO. : XX
CHANNEL : XX
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF.
DWG. No. 5-5044-XXX-DQ
NOTES/REFERENCE DRAWINGS
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG. TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48XZA-2343
HEAT DETECTOR
SCALE :
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NO
NIM 5 4745 021DQ 3 A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



1. XX-SYSTEM DETAILS AWAITED.	–						
2. FOR CABLE SCHEDULE REF. DWG. No. 5-5044-XXX-DQ	REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
						PDO APPROVAL	

NOTES/REFERENCE DRAWINGS — MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS

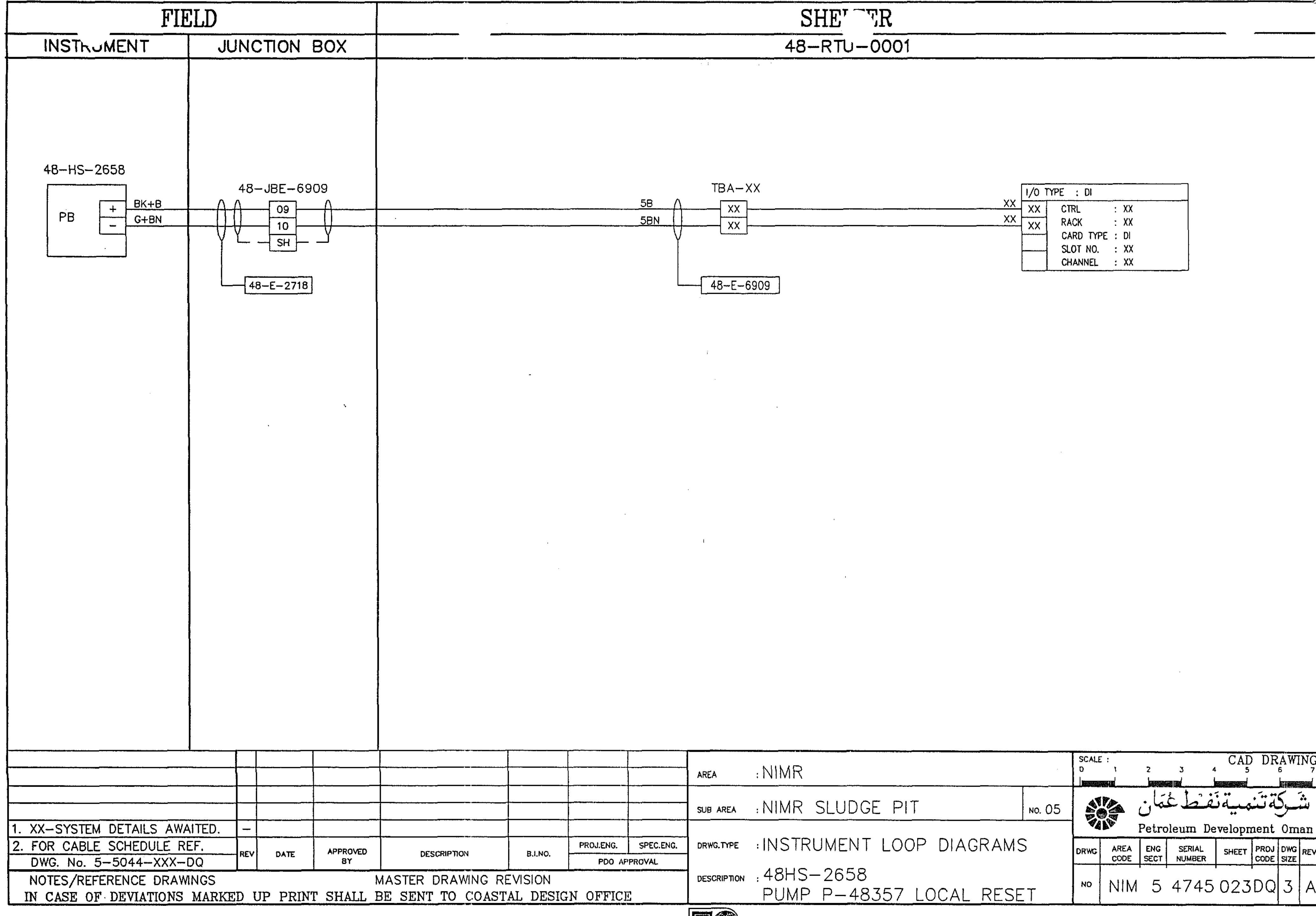
DESCRIPTION : 48HS-2219A/B PUMP P-48357 LOCAL START/STOP

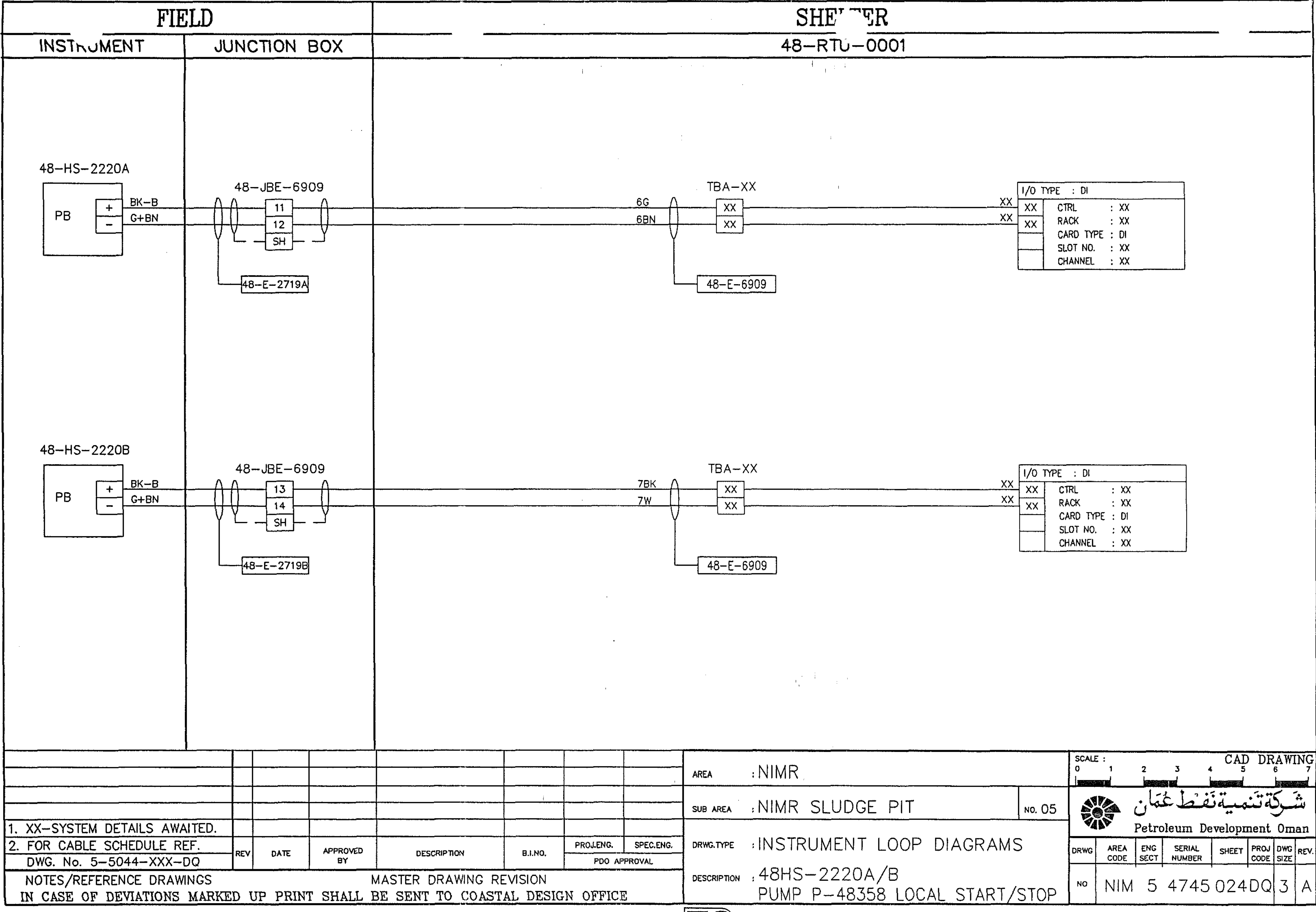
SCALE : 0 1 2 3 4 5 6 7 — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

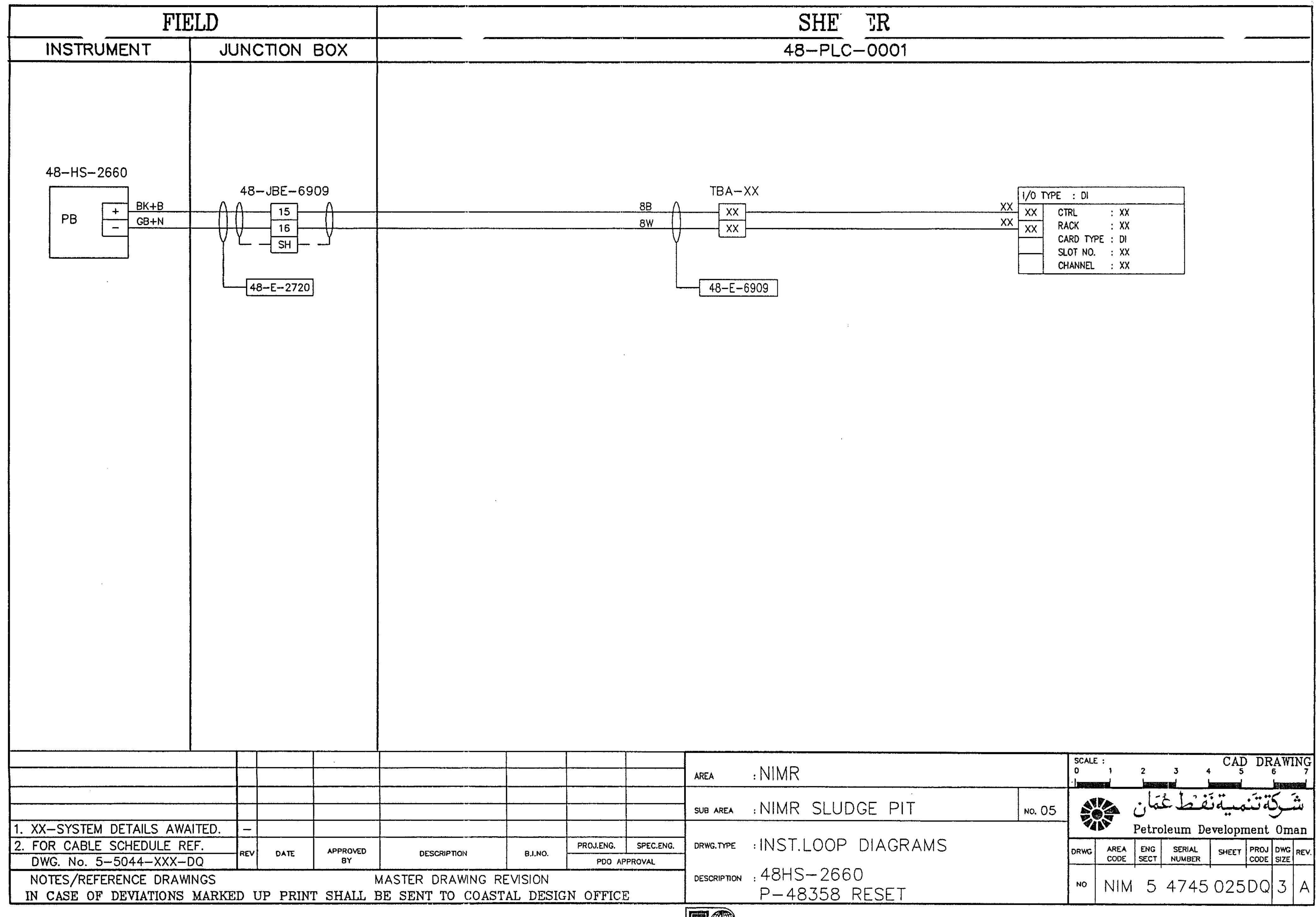
DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4745	022	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

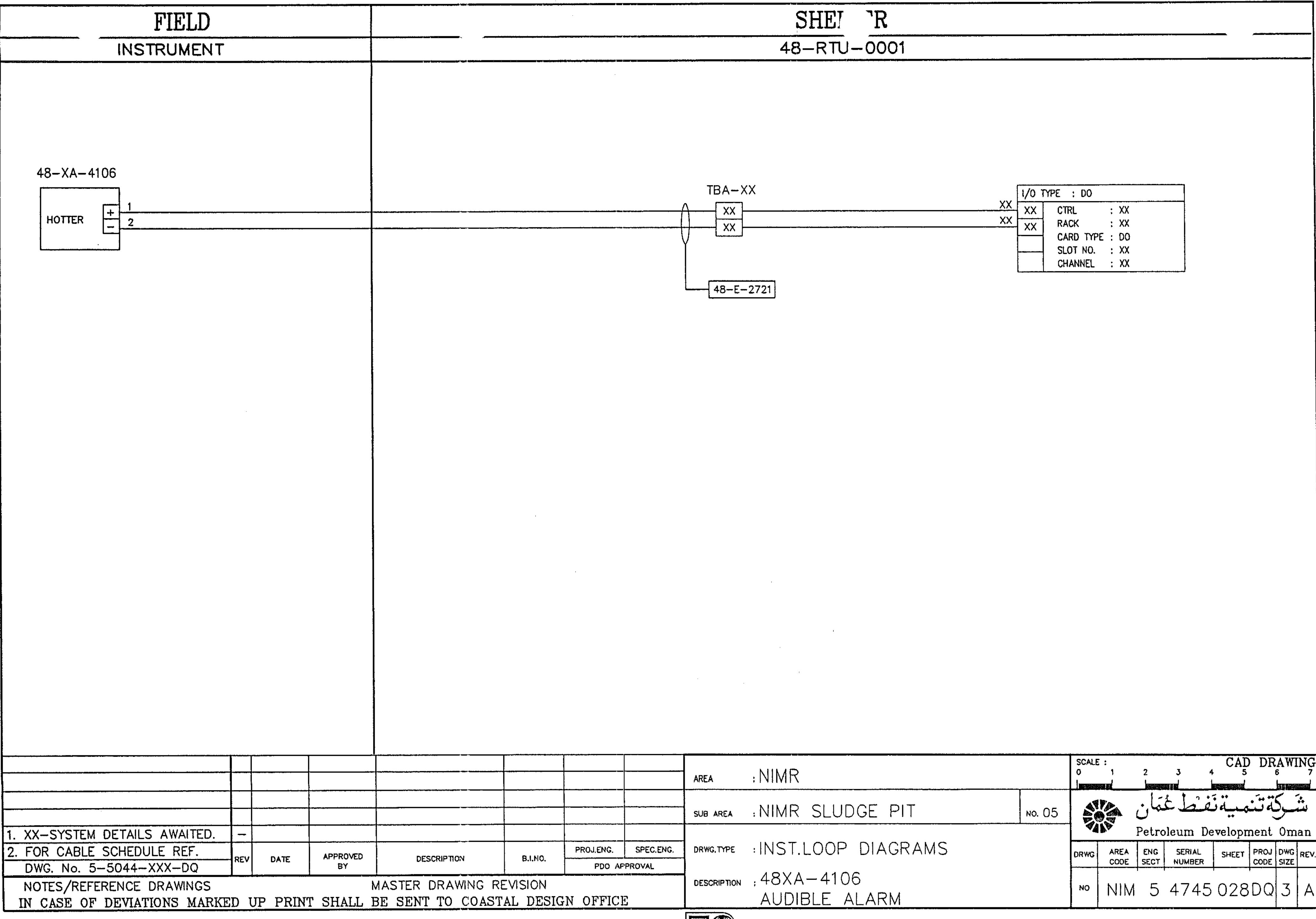

FIELD
SHELTER
INSTRUMENT
JUNCTION BOX
48-RTU-0001
48-HS-2658
PB
BK+B
G+BN
48-JBE-6909
09
10
SH
48-E-2718
5B
5BN
TBA-XX
XX
XX
48-E-6909
I/O TYPE : DI
CTRL : XX
RACK : XX
CARD TYPE : DI
SLOT NO. : XX
CHANNEL : XX
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF.
DWG. No. 5-5044-XXX-DQ
NOTES/REFERENCE DRAWINGS
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48HS-2658
PUMP P-48357 LOCAL RESET
SCALE :
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NIM 5 4745 023DQ 3 A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



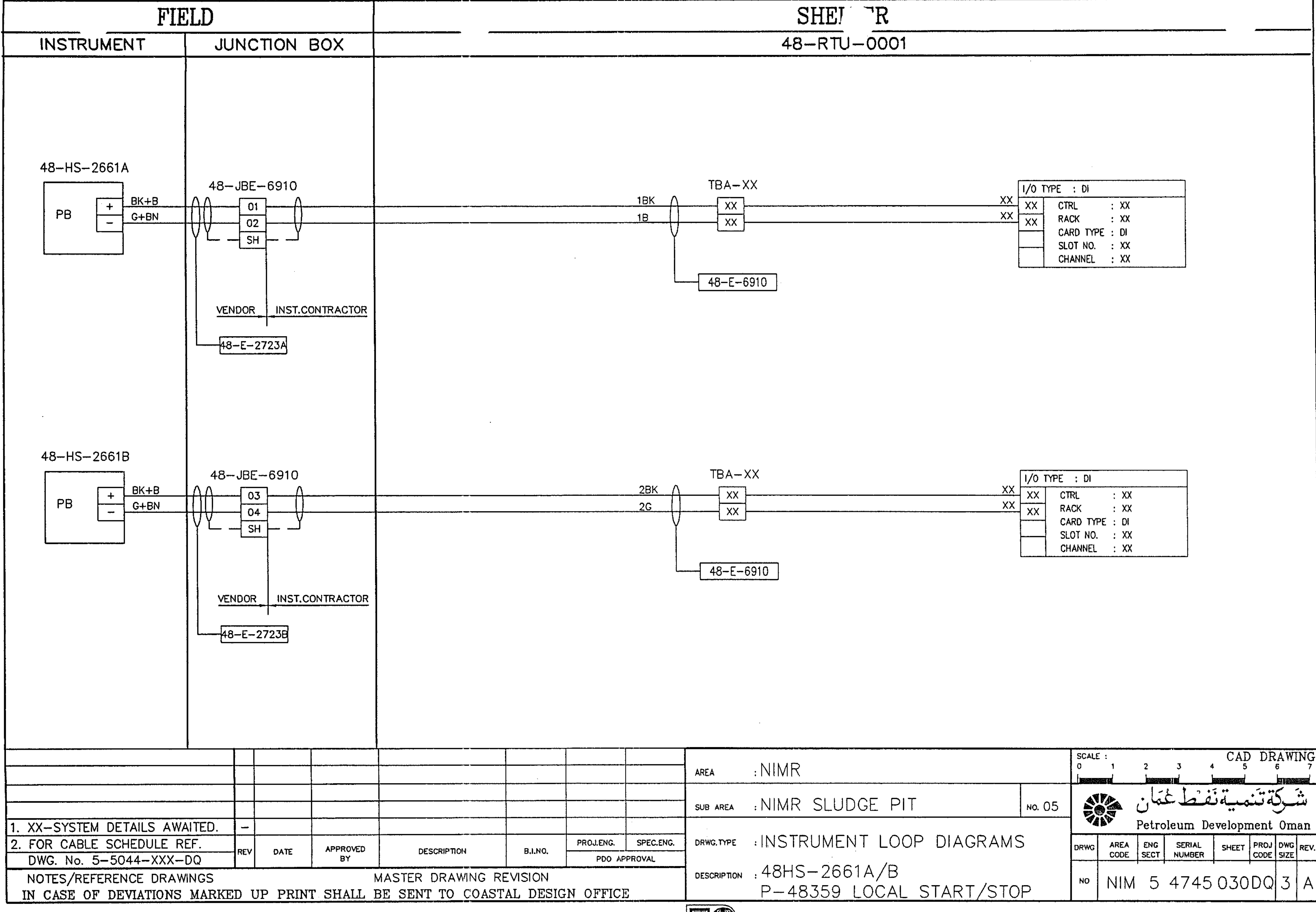
FIELD
SHE'TER
INSTRUMENT
JUNCTION BOX
48-RTU-0001
48-HS-2220A
PB
BK-B
G+BN
48-JBE-6909
11
12
SH
48-E-2719A
6G
6BN
TBA-XX
XX
XX
48-E-6909
I/O TYPE : DI
CTRL : XX
RACK : XX
CARD TYPE : DI
SLOT NO. : XX
CHANNEL : XX
48-HS-2220B
PB
BK-B
G+BN
48-JBE-6909
13
14
SH
48-E-2719B
7BK
7W
TBA-XX
48-E-6909
I/O TYPE : DI
CTRL : XX
RACK : XX
CARD TYPE : DI
SLOT NO. : XX
CHANNEL : XX
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF. DWG. No. 5-5044-XXX-DQ
NOTES/REFERENCE DRAWINGS
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48HS-2220A/B PUMP P-48358 LOCAL START/STOP
SCALE :
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NIM
5
4745
024DQ
3
A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



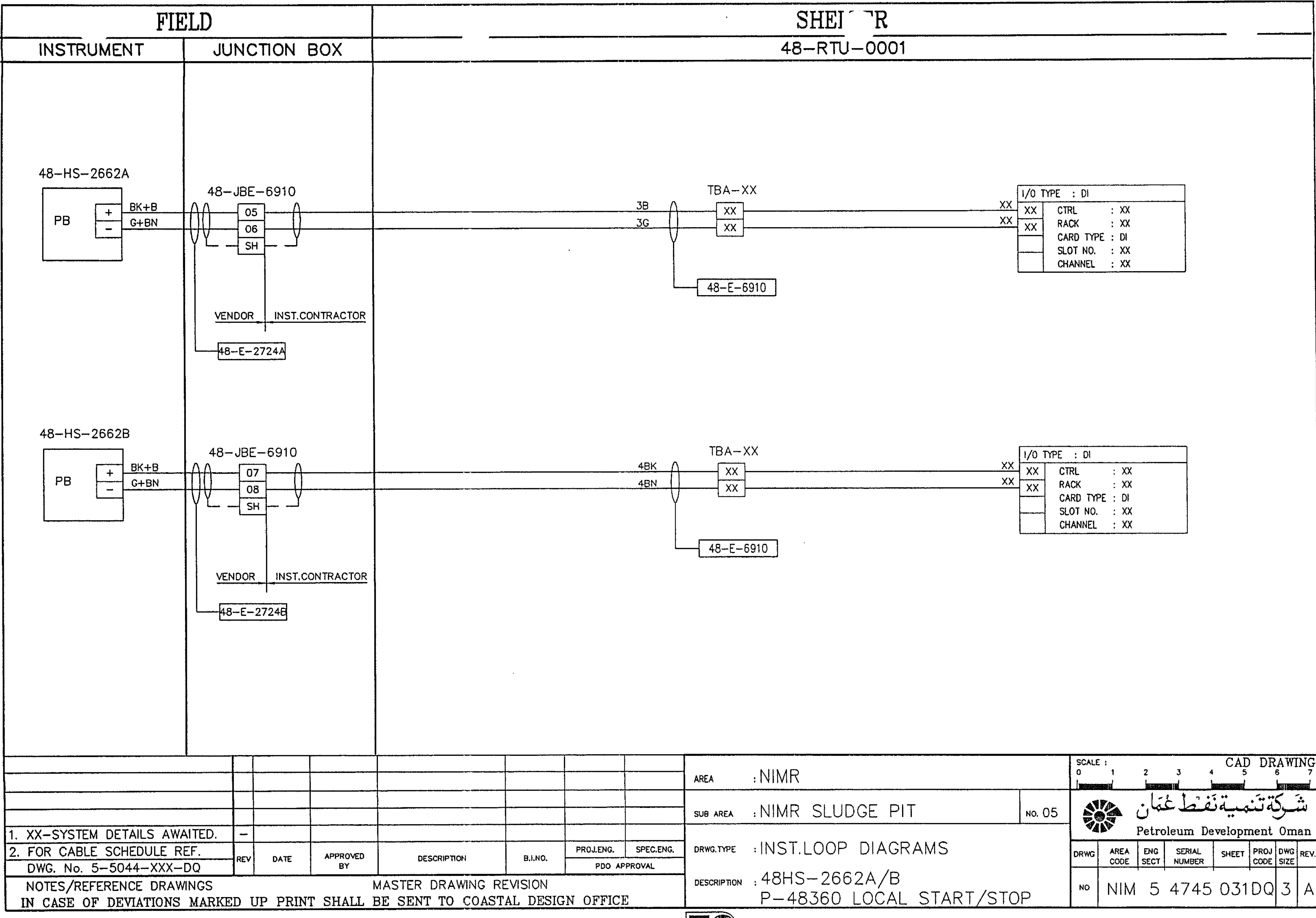
FIELD
SHE ER
INSTRUMENT
JUNCTION BOX
48-PLC-0001
48-HS-2660
PB
+
−
BK+B
GB+N
48-JBE-6909
15
16
SH
48-E-2720
8B
8W
TBA-XX
XX
XX
48-E-6909
XX
XX
I/O TYPE : DI
XX
XX
CTRL : XX
RACK : XX
CARD TYPE : DI
SLOT NO. : XX
CHANNEL : XX
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF.
DWG. No. 5-5044-XXX-DQ
NOTES/REFERENCE DRAWINGS
−
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : INST.LOOP DIAGRAMS
DESCRIPTION : 48HS-2660
P-48358 RESET
SCALE :
CAD DRAWING
0 1 2 3 4 5 6 7
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NIM 5 4745 025DQ 3 A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



FIELD
INSTRUMENT
SHEL TR
48-RTU-0001
48-XA-4106
HOTTER
+
-
1
2
TBA-XX
XX
XX
48-E-2721
XX
XX
I/O TYPE : DO
XX
XX
CTRL : XX
RACK : XX
CARD TYPE : DO
SLOT NO. : XX
CHANNEL : XX
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF.
DWG. No. 5-5044-XXX-DQ
-
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : INST.LOOP DIAGRAMS
DESCRIPTION : 48XA-4106
AUDIBLE ALARM
SCALE :
CAD DRAWING
0 1 2 3 4 5 6 7
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NO
NIM
5
4745
028
DQ
3
A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF.
DWG. No. 5-5044-XXX-DQ

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
-					PDO APPROVAL	

NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

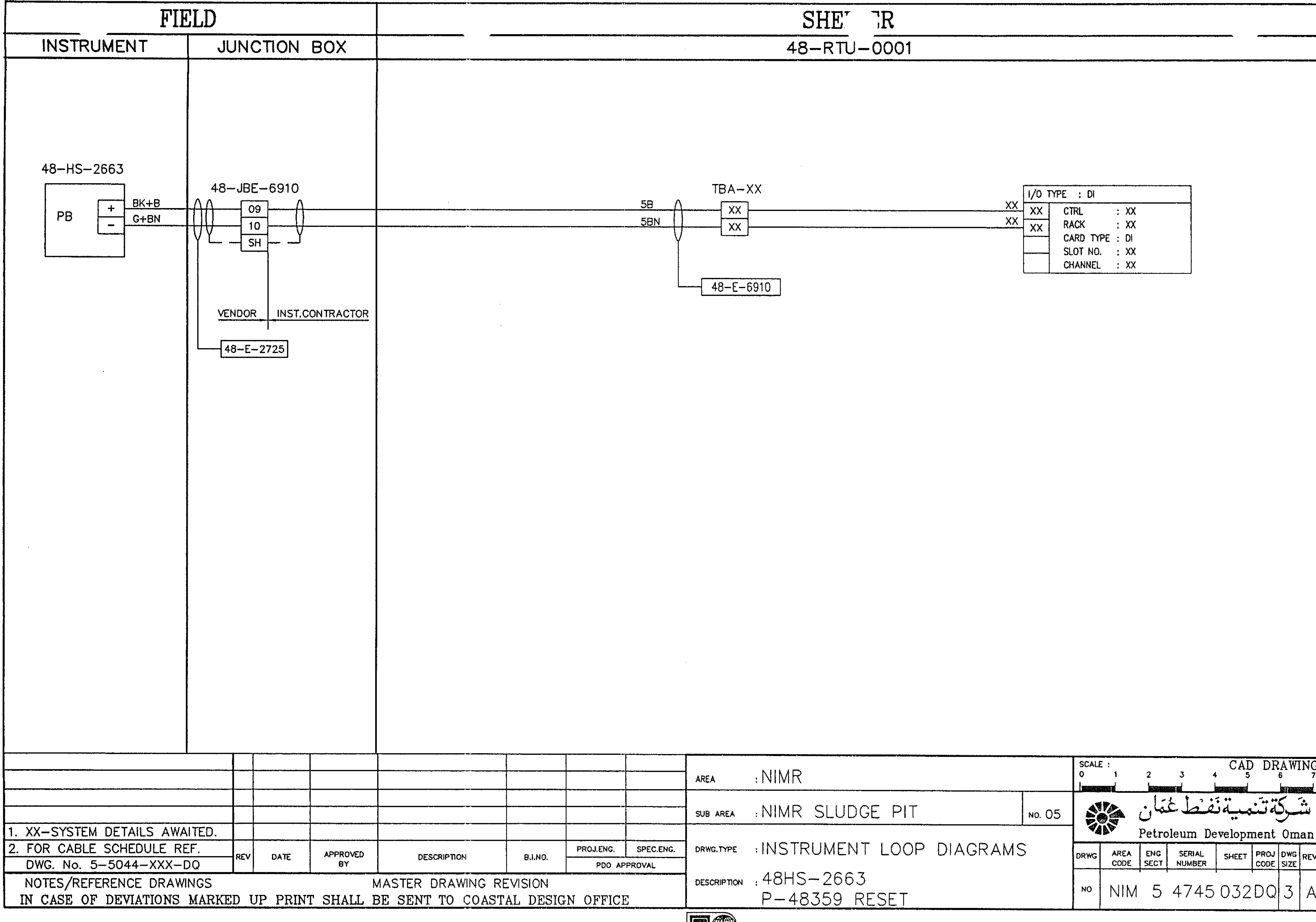
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT — NO. 05
DRWG.TYPE : INST.LOOP DIAGRAMS
DESCRIPTION : 48HS-2662A/B
P-48360 LOCAL START/STOP

SCALE : 0 1 2 3 4 5 6 7 — CAD DRAWING

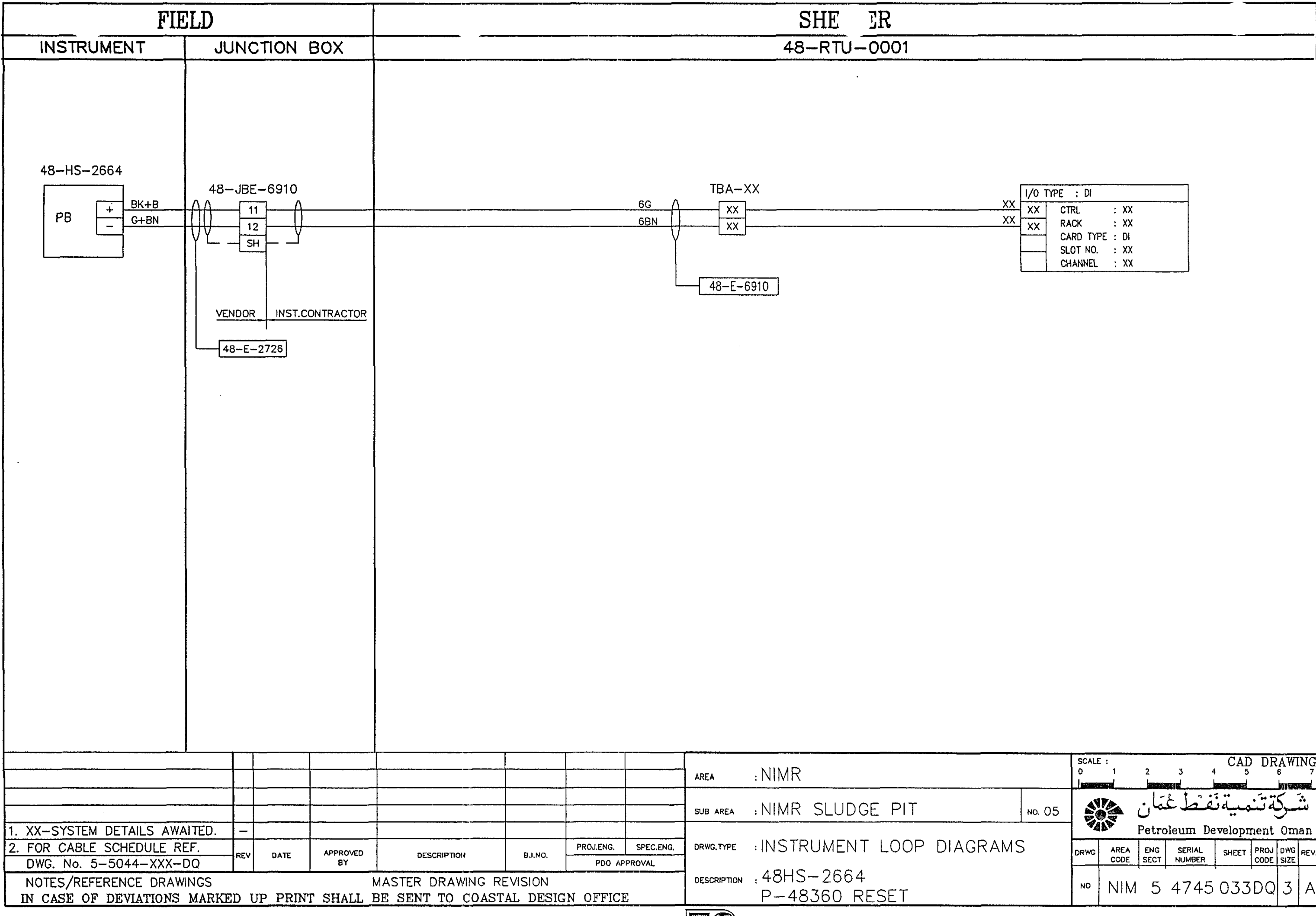
شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4745	031	DQ	3	A

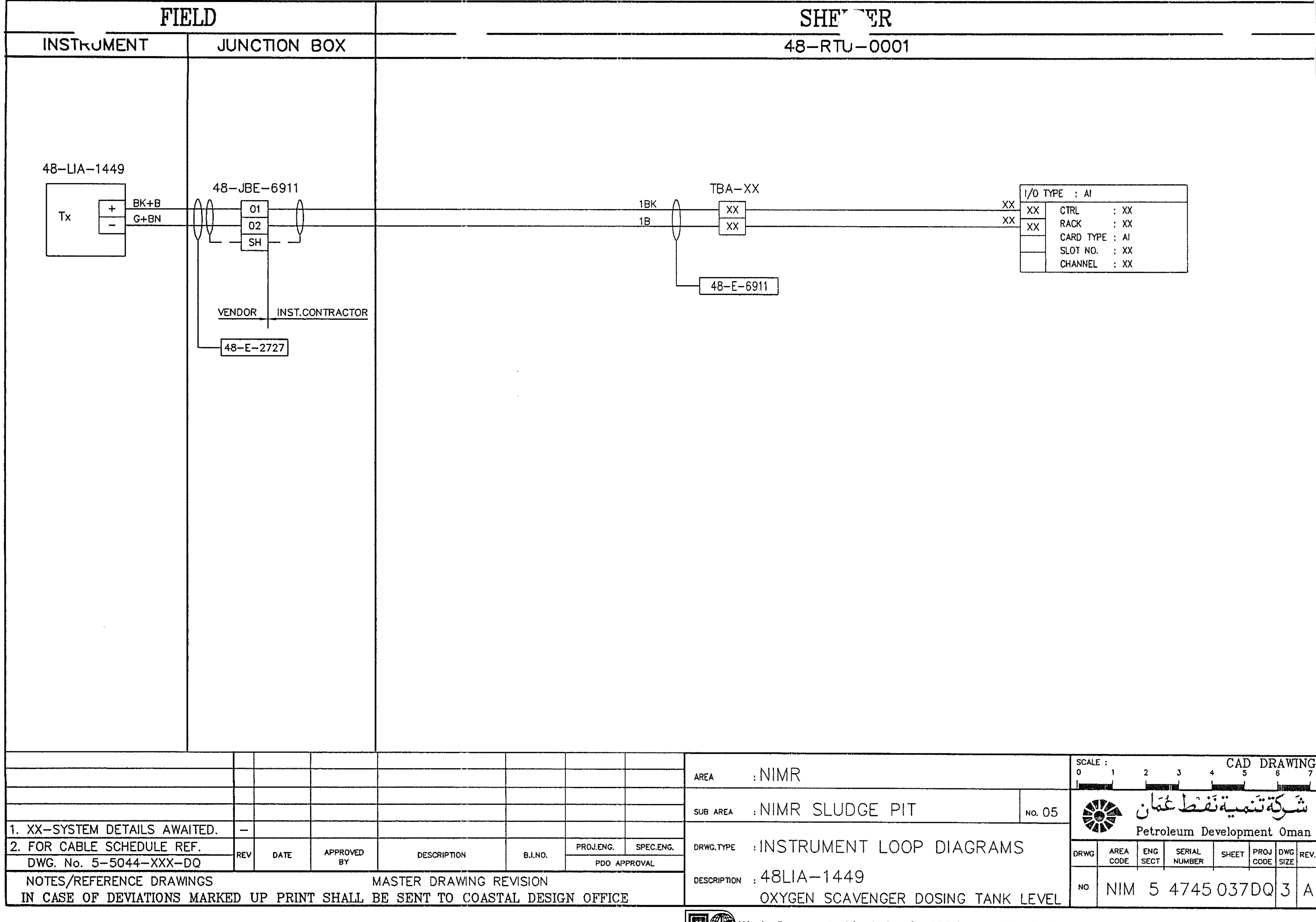
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

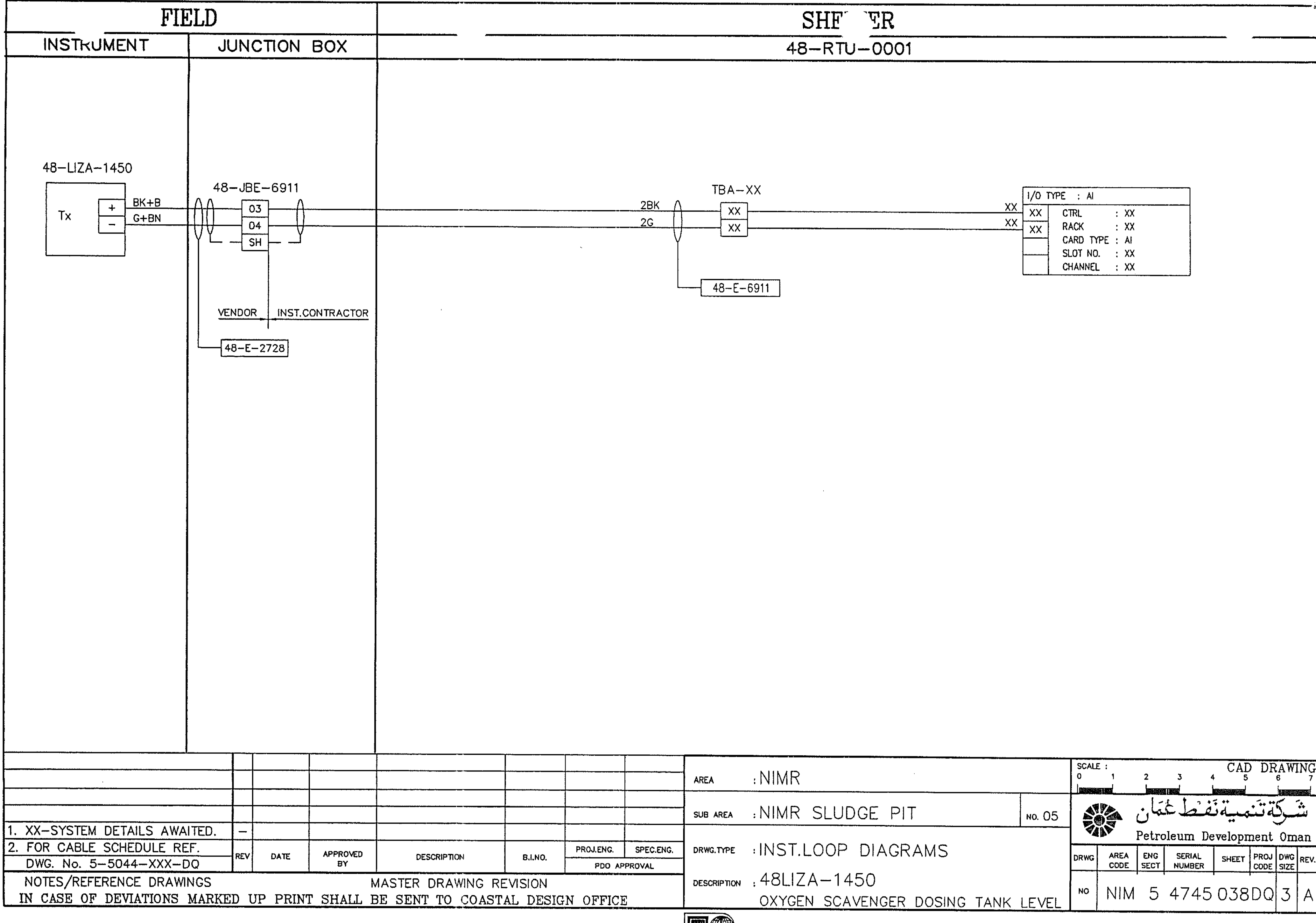


FIELD
SHE 'R
INSTRUMENT
JUNCTION BOX
48-RTU-0001
48-HS-2663
PB
+
-
BK+B
G+BN
48-JBE-6910
09
10
SH
VENDOR
INST.CONTRACTOR
48-E-2725
5B
5BN
TBA-XX
XX
XX
48-E-6910
XX
XX
I/O TYPE : DI
CTRL : XX
RACK : XX
CARD TYPE : DI
SLOT NO. : XX
CHANNEL : XX
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF.
DWG. No. 5-5044-XXX-DQ
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48HS-2663
P-48359 RESET
SCALE :
CAD DRAWING
0 1 2 3 4 5 6 7
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NO
NIM
5
4745
032
DQ
3
A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

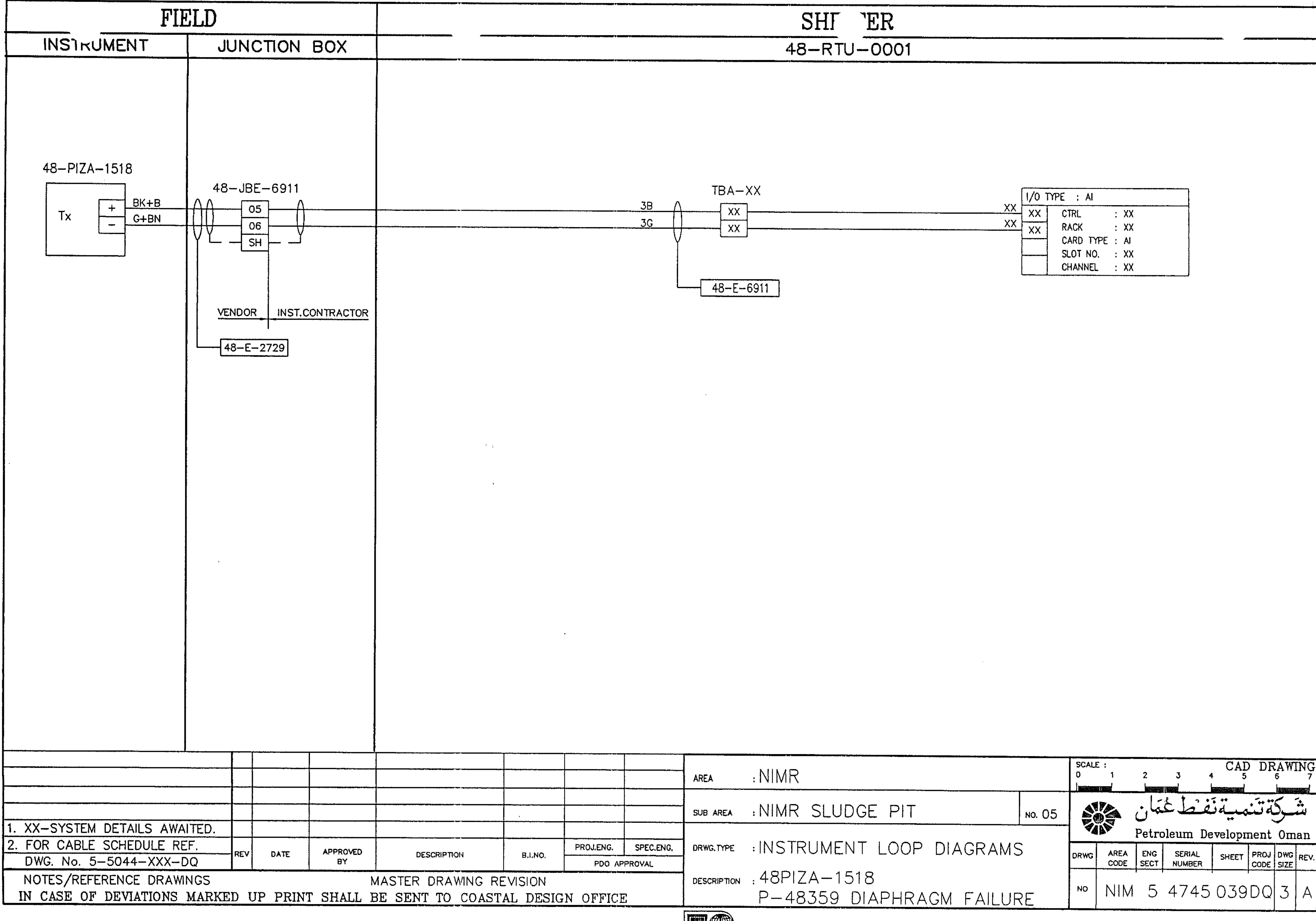


WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

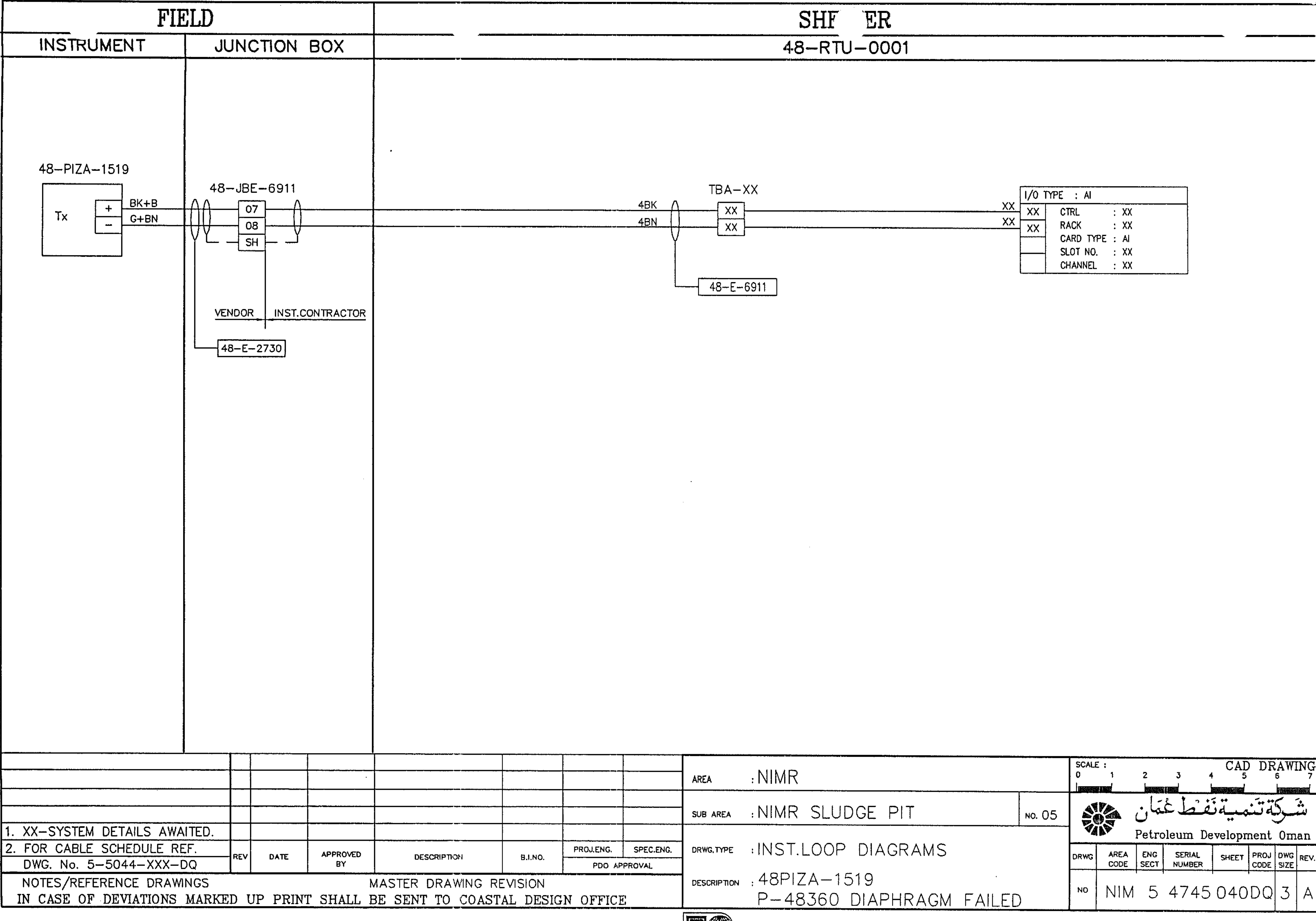

FIELD
SHE ER
INSTRUMENT
JUNCTION BOX
48-RTU-0001
48-LIA-1449
Tx
+
-
BK+B
G+BN
48-JBE-6911
01
02
SH
VENDOR
INST.CONTRACTOR
48-E-2727
1BK
1B
TBA-XX
XX
XX
48-E-6911
XX
XX
I/O TYPE : AI
XX
XX
CTRL : XX
RACK : XX
CARD TYPE : AI
SLOT NO. : XX
CHANNEL : XX
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF.
DWG. No. 5-5044-XXX-DQ
NOTES/REFERENCE DRAWINGS
-
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48LIA-1449
OXYGEN SCAVENGER DOSING TANK LEVEL
SCALE :
CAD DRAWING
0 1 2 3 4 5 6 7
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NO
NIM
5
4745
037
DQ
3
A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



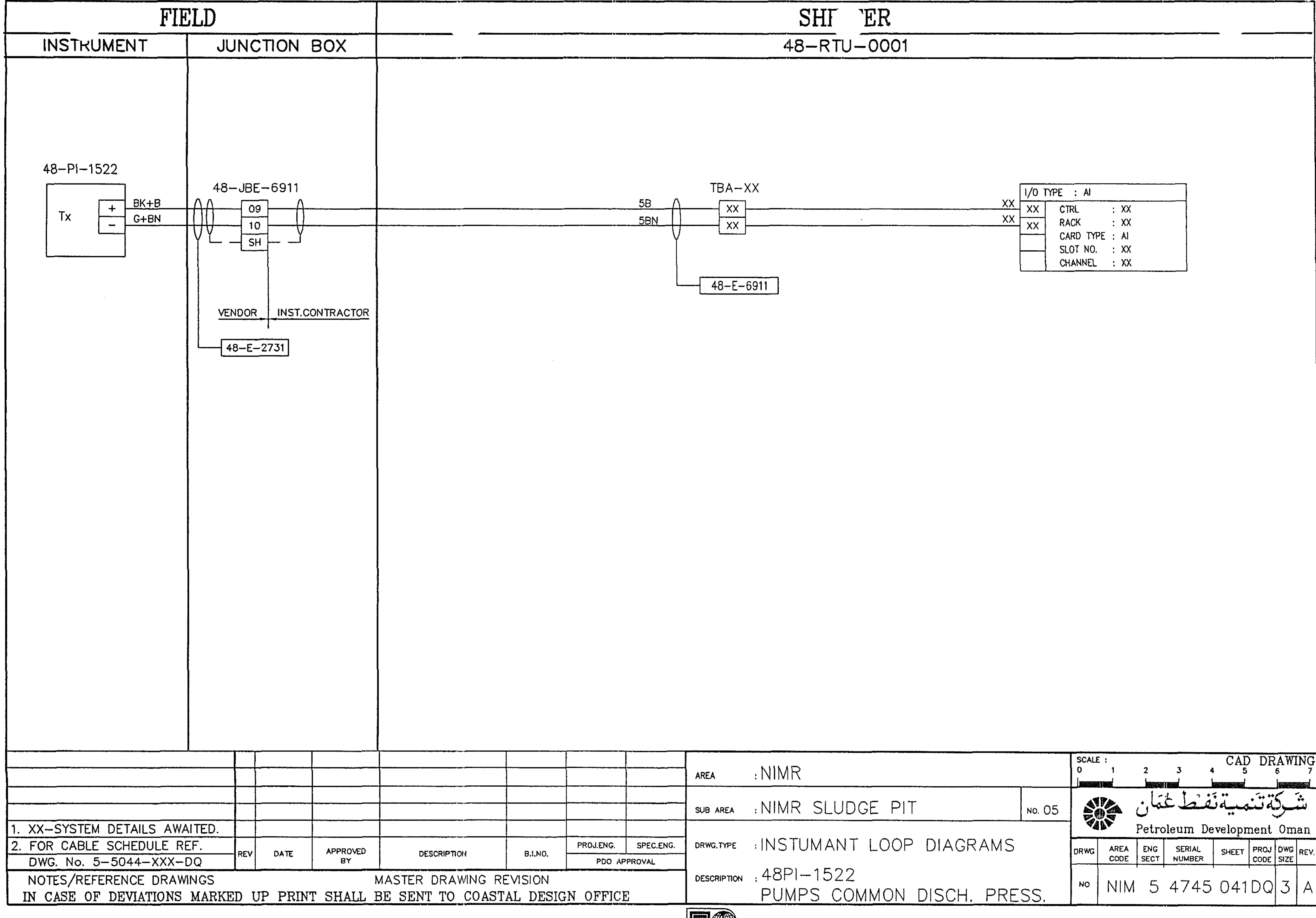
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



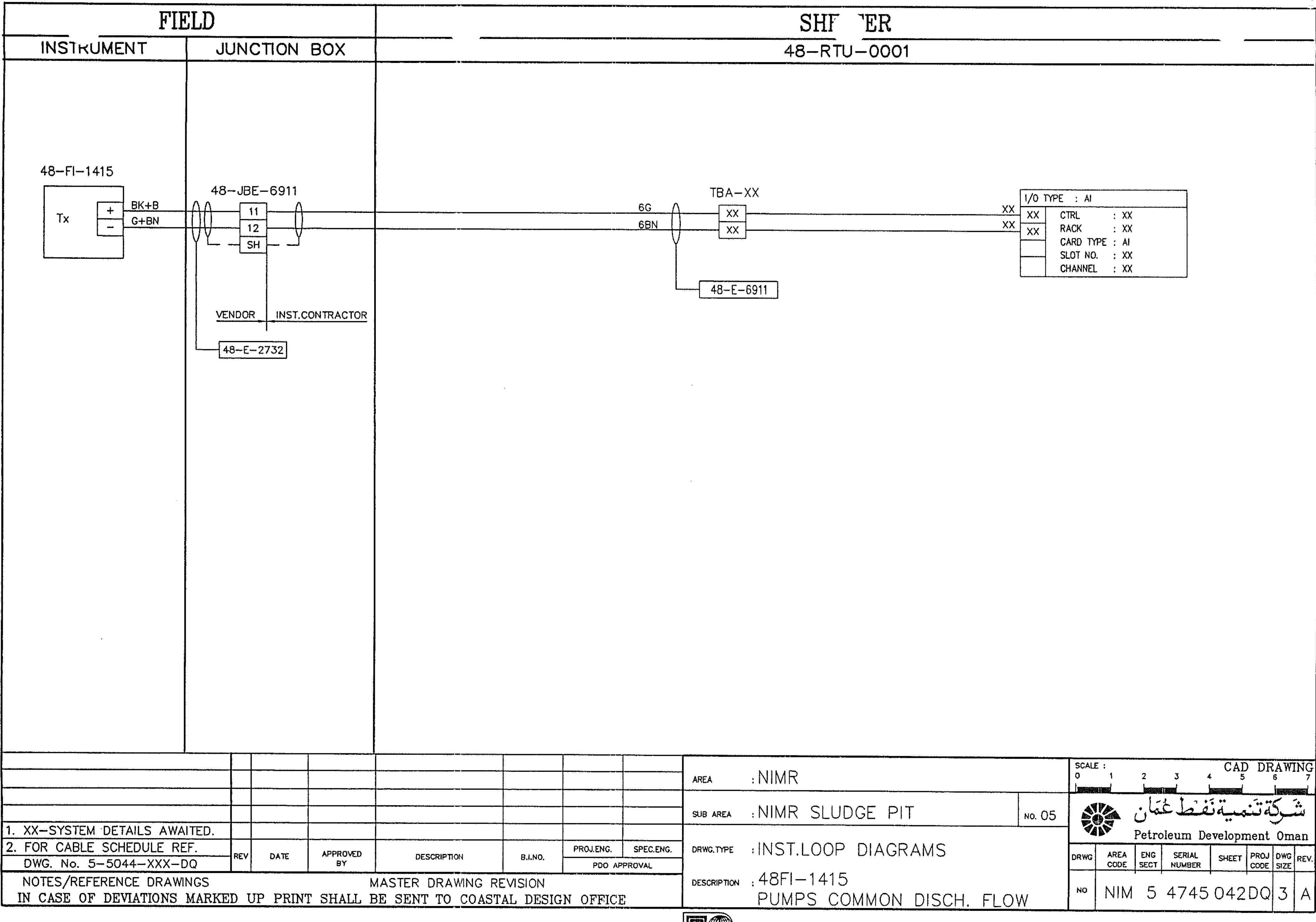
FIELD
INSTRUMENT
JUNCTION BOX
SHELTER
48-RTU-0001
48-PIZA-1518
Tx
+
-
BK+B
G+BN
48-JBE-6911
05
06
SH
VENDOR
INST.CONTRACTOR
48-E-2729
3B
3G
TBA-XX
XX
XX
48-E-6911
XX
XX
I/O TYPE : AI
CTRL : XX
RACK : XX
CARD TYPE : AI
SLOT NO. : XX
CHANNEL : XX
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF.
DWG. No. 5-5044-XXX-DQ
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG. TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48PIZA-1518
P-48359 DIAPHRAGM FAILURE
SCALE :
0 1 2 3 4 5 6 7
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NO
NIM
5
4745
039
DQ
3
A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



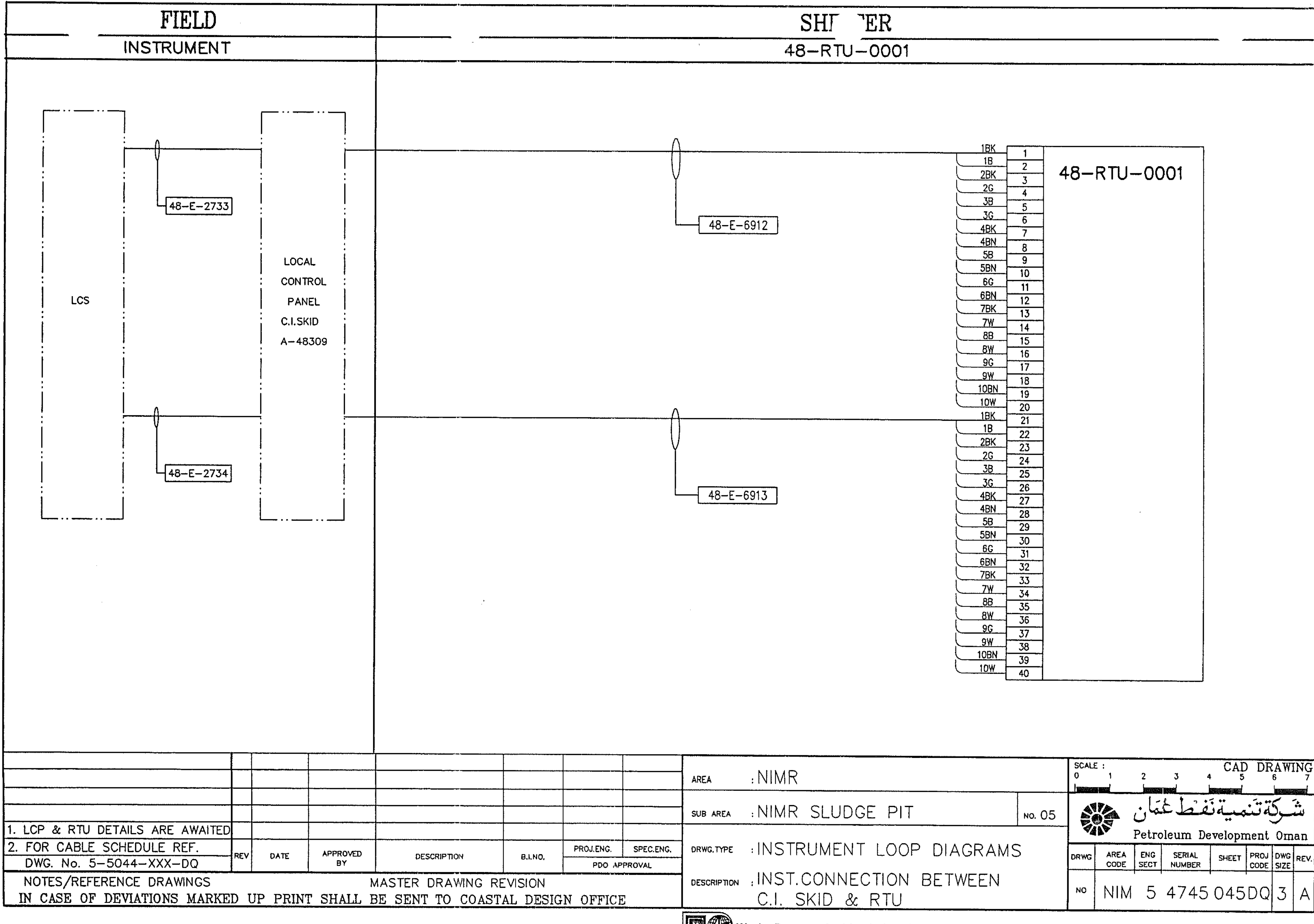
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



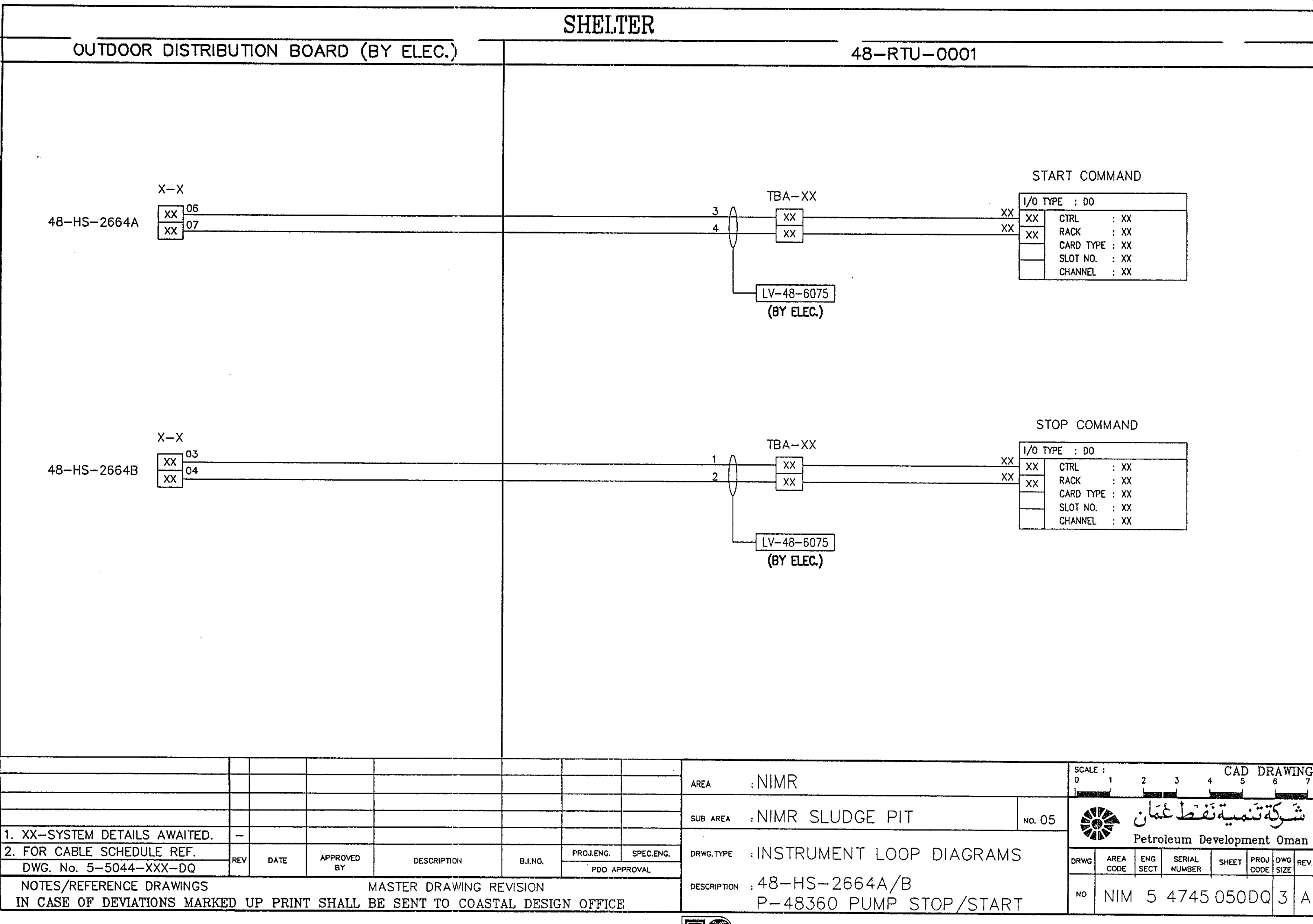
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



FIELD
INSTRUMENT
SHI ER
48-RTU-0001
LCS
48-E-2733
48-E-2734
LOCAL
CONTROL
PANEL
C.I.SKID
A-48309
48-E-6912
48-E-6913
48-RTU-0001
1BK 1
1B 2
2BK 3
2G 4
3B 5
3G 6
4BK 7
4BN 8
5B 9
5BN 10
6G 11
6BN 12
7BK 13
7W 14
8B 15
8W 16
9G 17
9W 18
10BN 19
10W 20
1BK 21
1B 22
2BK 23
2G 24
3B 25
3G 26
4BK 27
4BN 28
5B 29
5BN 30
6G 31
6BN 32
7BK 33
7W 34
8B 35
8W 36
9G 37
9W 38
10BN 39
10W 40
1. LCP & RTU DETAILS ARE AWAITED
2. FOR CABLE SCHEDULE REF.
DWG. No. 5-5044-XXX-DQ
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : INST.CONNECTION BETWEEN C.I. SKID & RTU
SCALE :
CAD DRAWING
0 1 2 3 4 5 6 7
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NIM 5 4745 045DQ 3 A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF. DWG. No. 5-5044-XXX-DQ

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
–						
					PDO APPROVAL	

NOTES/REFERENCE DRAWINGS — MASTER DRAWING REVISION

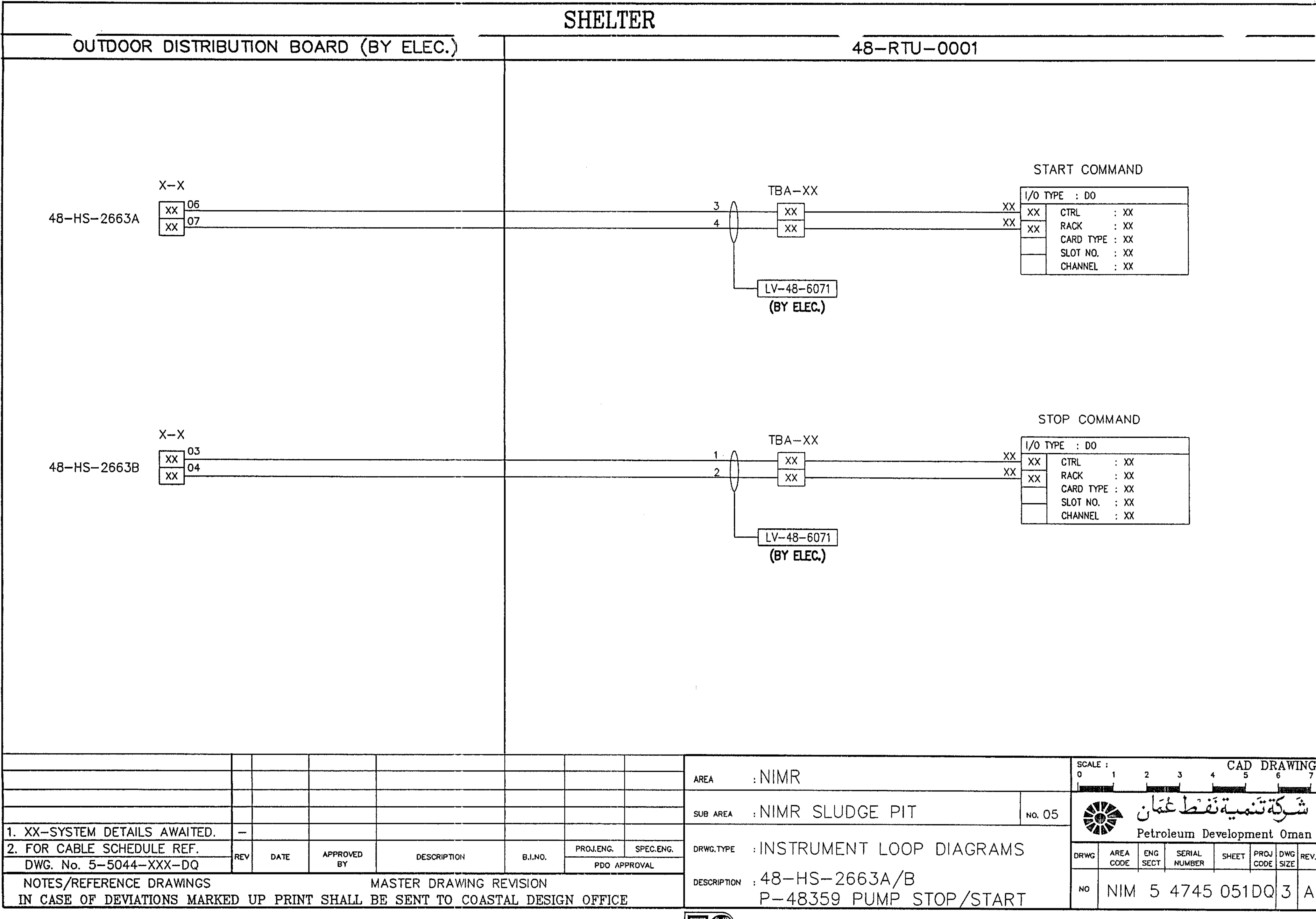
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

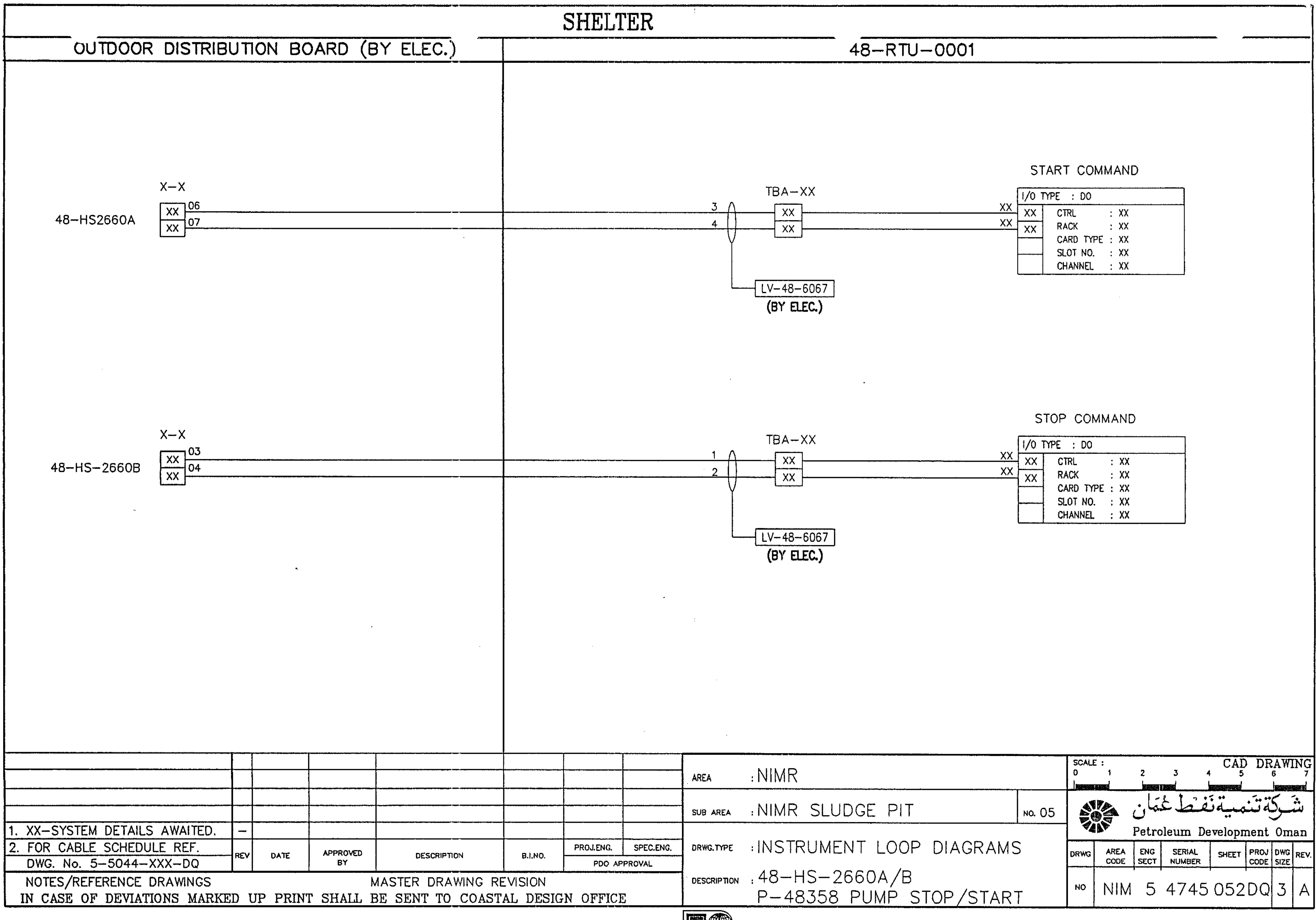
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT — NO. 05
DRWG. TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48-HS-2664A/B P-48360 PUMP STOP/START

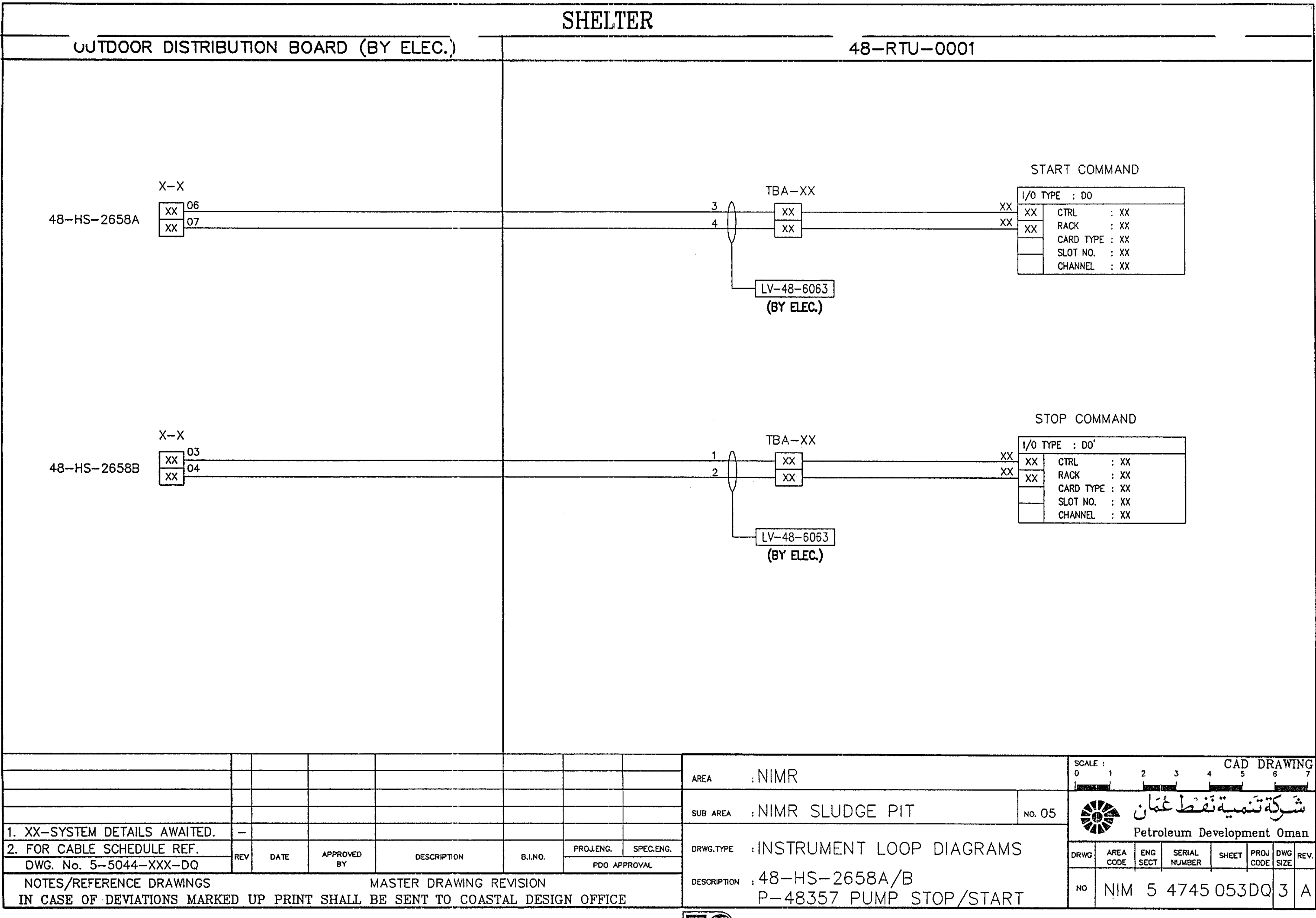
SCALE : 0 1 2 3 4 5 6 7 — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4745	050	DQ	3	A


SHELTER
OUTDOOR DISTRIBUTION BOARD (BY ELEC.)
48-RTU-0001
48-HS-2663A
X-X
XX 06
XX 07
3
4
TBA-XX
XX
XX
LV-48-6071
(BY ELEC.)
START COMMAND
I/O TYPE : DO
CTRL : XX
RACK : XX
CARD TYPE : XX
SLOT NO. : XX
CHANNEL : XX
48-HS-2663B
X-X
XX 03
XX 04
1
2
TBA-XX
XX
XX
LV-48-6071
(BY ELEC.)
STOP COMMAND
I/O TYPE : DO
CTRL : XX
RACK : XX
CARD TYPE : XX
SLOT NO. : XX
CHANNEL : XX
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF.
DWG. No. 5-5044-XXX-DQ
NOTES/REFERENCE DRAWINGS
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48-HS-2663A/B
P-48359 PUMP STOP/START
SCALE :
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NIM 5 4745 051DQ 3 A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405


SHELTER
OUTDOOR DISTRIBUTION BOARD (BY ELEC.)
48-RTU-0001
START COMMAND
X-X
48-HS2660A
XX 06
XX 07
3
4
TBA-XX
XX
XX
XX
XX
I/0 TYPE : DO
CTRL : XX
RACK : XX
CARD TYPE : XX
SLOT NO. : XX
CHANNEL : XX
LV-48-6067
(BY ELEC.)
STOP COMMAND
X-X
48-HS-2660B
XX 03
XX 04
1
2
TBA-XX
I/0 TYPE : DO
CTRL : XX
RACK : XX
CARD TYPE : XX
SLOT NO. : XX
CHANNEL : XX
LV-48-6067
(BY ELEC.)
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF.
DWG. No. 5-5044-XXX-DQ
NOTES/REFERENCE DRAWINGS
REV | DATE | APPROVED BY | DESCRIPTION | B.I.NO. | PROJ.ENG. | SPEC.ENG. | PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48-HS-2660A/B
P-48358 PUMP STOP/START
SCALE : 0 1 2 3 4 5 6 7
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO | AREA CODE | ENG SECT | SERIAL NUMBER | SHEET | PROJ CODE | DWG SIZE | REV.
NIM 5 4745 052 DQ 3 A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



1. XX-SYSTEM DETAILS AWAITED.	–						
2. FOR CABLE SCHEDULE REF. DWG. No. 5-5044-XXX-DQ	REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
						PDO APPROVAL	

NOTES/REFERENCE DRAWINGS — MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS

DESCRIPTION : 48-HS-2658A/B P-48357 PUMP STOP/START

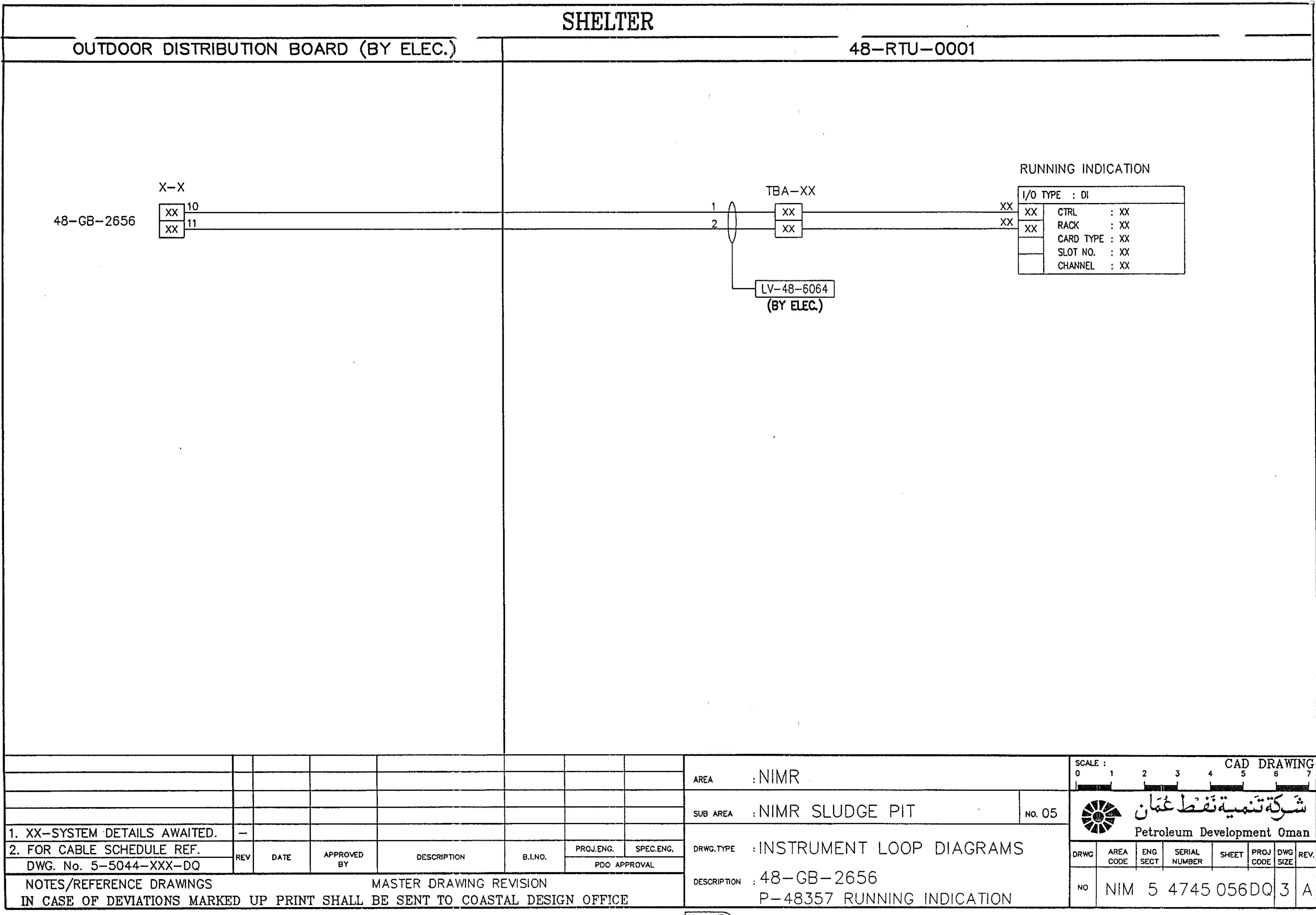
SCALE : 0 1 2 3 4 5 6 7 — CAD DRAWING

شركة تنمية نفط عمان

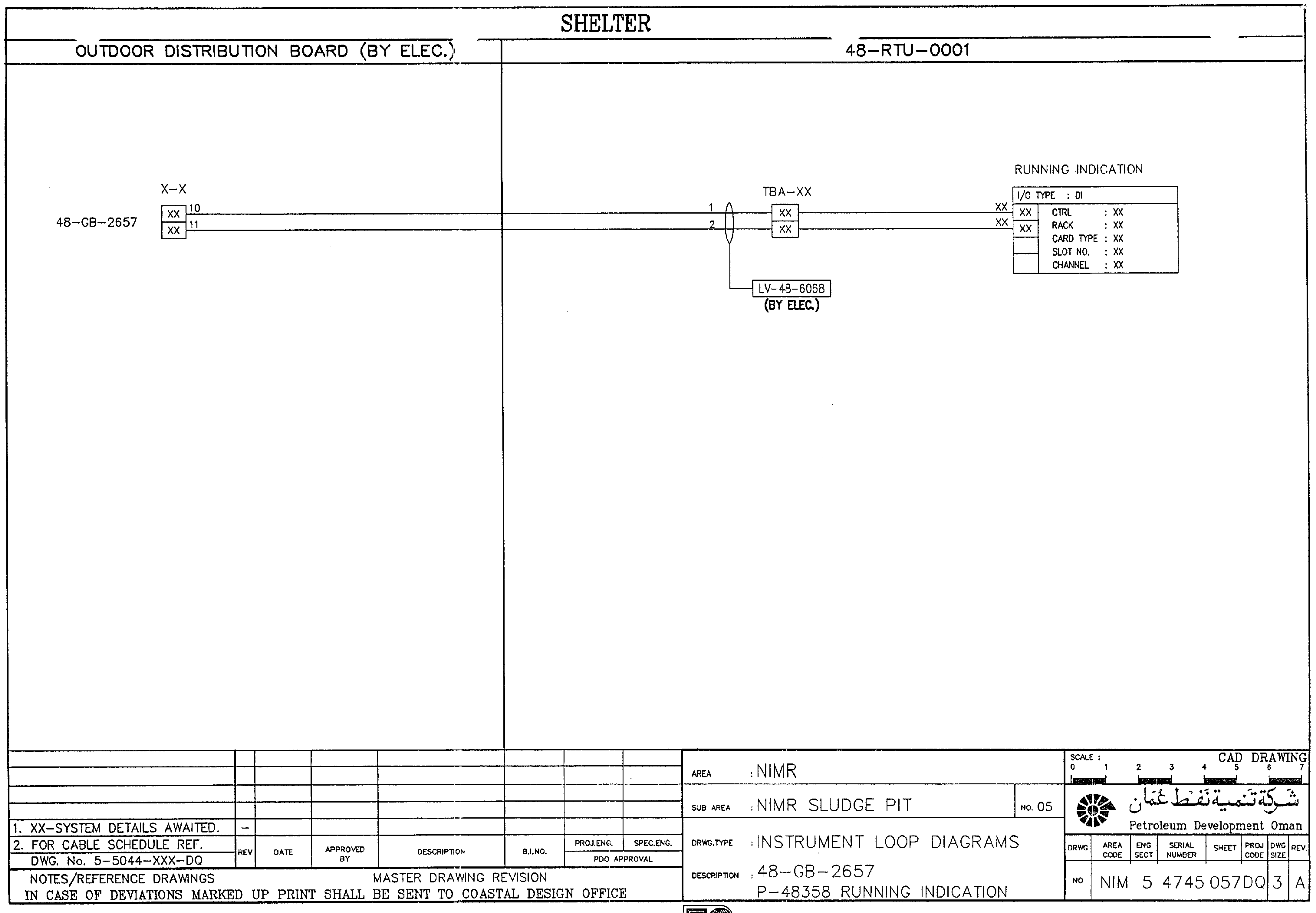
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4745	053	DQ	3	A

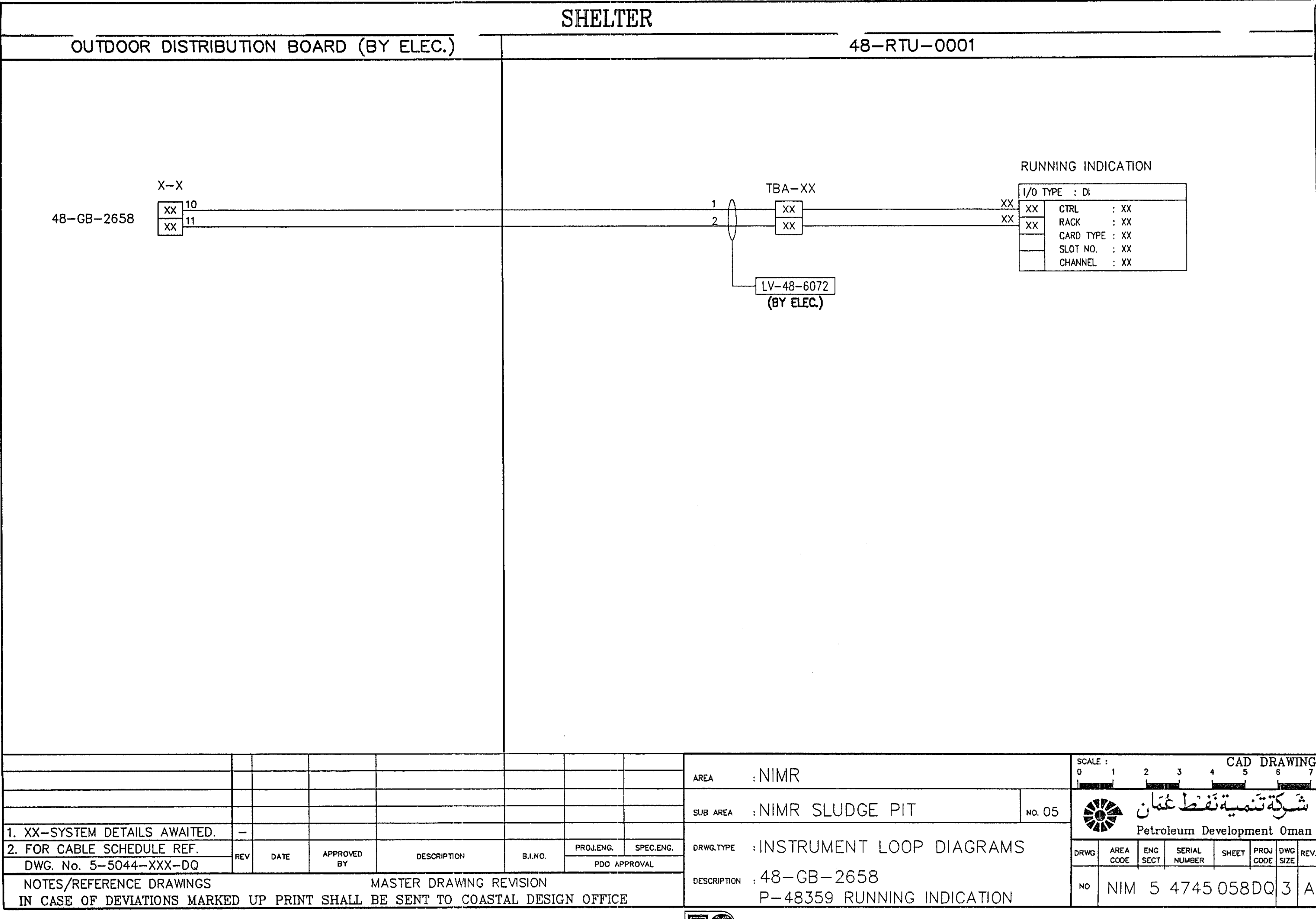
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



SHELTER
OUTDOOR DISTRIBUTION BOARD (BY ELEC.)
48-RTU-0001
RUNNING INDICATION
X-X
TBA-XX
48-GB-2656
XX 10
XX 11
1
2
XX
XX
I/O TYPE : DI
CTRL : XX
RACK : XX
CARD TYPE : XX
SLOT NO. : XX
CHANNEL : XX
LV-48-6064
(BY ELEC.)
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF. DWG. No. 5-5044-XXX-DQ
NOTES/REFERENCE DRAWINGS
REV DATE APPROVED BY DESCRIPTION B.I.NO. PROJ.ENG. SPEC.ENG.
PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48-GB-2656
P-48357 RUNNING INDICATION
SCALE :
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO
AREA CODE NIM
ENG SECT 5
SERIAL NUMBER 4745
SHEET 056
PROJ CODE DQ
DWG SIZE 3
REV. A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



SHELTER
OUTDOOR DISTRIBUTION BOARD (BY ELEC.)
48-RTU-0001
X-X
48-GB-2657
XX 10
XX 11
1
2
TBA-XX
XX
XX
LV-48-6068
(BY ELEC.)
RUNNING INDICATION
XX
XX
I/O TYPE : DI
CTRL : XX
RACK : XX
CARD TYPE : XX
SLOT NO. : XX
CHANNEL : XX
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF. DWG. No. 5-5044-XXX-DQ
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
NOTES/REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48-GB-2657
P-48358 RUNNING INDICATION
SCALE :
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO
AREA CODE
ENG SECT
SERIAL NUMBER
SHEET
PROJ CODE
DWG SIZE
REV.
NIM 5 4745 057 DQ 3 A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF. DWG. No. 5-5044-XXX-DQ

NOTES/REFERENCE DRAWINGS

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
-					PDO APPROVAL	

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

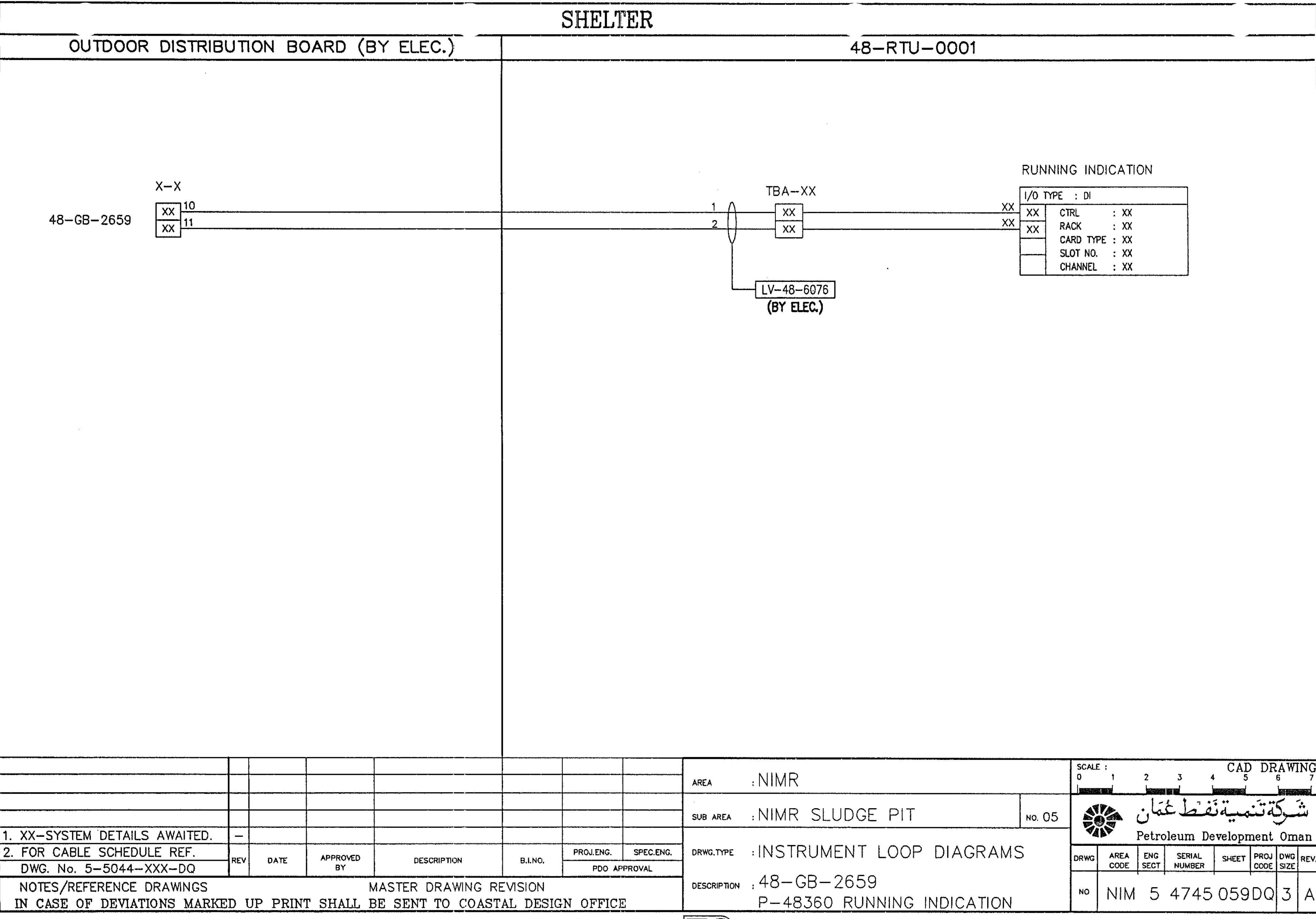
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT NO. 05
DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48-GB-2658
P-48359 RUNNING INDICATION

SCALE : 0 1 2 3 4 5 6 7
CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4745	058	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405


SHELTER
OUTDOOR DISTRIBUTION BOARD (BY ELEC.)
48-RTU-0001
X-X
48-GB-2659
XX 10
XX 11
1
2
TBA-XX
XX
XX
LV-48-6076
(BY ELEC.)
RUNNING INDICATION
I/O TYPE : DI
XX
XX
CTRL : XX
RACK : XX
CARD TYPE : XX
SLOT NO. : XX
CHANNEL : XX
1. XX-SYSTEM DETAILS AWAITED.
2. FOR CABLE SCHEDULE REF.
DWG. No. 5-5044-XXX-DQ
NOTES/REFERENCE DRAWINGS
REV
DATE
APPROVED BY
DESCRIPTION
B.I.NO.
PROJ.ENG.
SPEC.ENG.
PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : INSTRUMENT LOOP DIAGRAMS
DESCRIPTION : 48-GB-2659
P-48360 RUNNING INDICATION
SCALE :
CAD DRAWING
0 1 2 3 4 5 6 7
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO
AREA CODE: NIM
ENG SECT: 5
SERIAL NUMBER: 4745
SHEET: 059
PROJ CODE: DQ
DWG SIZE: 3
REV.: A
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

SUMMARY OF INSTRUMENT INSTALLATION MATERIALS

APPROVED FOR CONSTRUCTION

15/4/2011

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS NO.	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	MAR.'11	KK			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/23N	
0	DEC.'10	Mrp	PT	KDA	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

AREA : NIMR

SCALE : —

CAD DRAWING

0 1 2 3 4 5 6 7

SUB AREA : NIMR SLUDGE PIT

NO. 05

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG.TYPE : INSTRUMENT INSTALLATION MATERIALS

DESCRIPTION : COVER SHEET

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4737	001	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

DESCRIPTION	SHEET	REV. 0	REV. A	REV. B	REV. C	REV. D	REV. E
COVER SHEET	001	DEC.'10	MAR.'11				
REVISION/INDEX SHEET	002	DEC.'10	MAR.'11				
SUMMARY OF INSTALLATION MATERIALS	003	DEC.'10	MAR.'11				

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT NO. 05

DRWG.TYPE : INSTRUMENT INSTALLATION MATERIALS

DESCRIPTION : REVISION/INDEX SHEET

SCALE : — CAD DRAWING

0 1 2 3 4 5 6 7

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4737	002	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

SL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	DESCRIPTION	MAT SPECIFICATION	SCH	SIZE	SIZE	UNIT	QTY	MINIMUM CERT. REQ
1	302	1000049076	70.13.04.025.1			HEAVY GAUGE CONDUIT	GALV. STEEL		25mm Dia		Mtrs	15.00	
2	L	1000047736	XX.XX.XX.XXX.X			CABLE XLPEI-MS-SWA-PVCS, BLACK			2 x2.5 mm2		Mtrs	250.00	
3	O	1000405299	XX.XX.XX.XXX.X			CABLE XLPEI-MS-SWA-PVCS, BLACK			2 x 2 x 1.13 mm		Mtrs	1000.00	
4	P	1000405297	XX.XX.XX.XXX.X	37.020		CBL ELEC ARM FIRE 24V 10PAIR 0.5MM2			10 x 2 x 0.8 mm		Mtrs	1300.00	BS5308, PART 1, TYPE2
5	R	-	XX.XX.XX.XXX.X			CABLE SHRINK ON SLEEVE (BLUE)	POLYOLEFIN		19 ~ 6 mm		-	NOTE-1	
6	X	1000048276	68.80.58.068.1			LOCK NUT	BRASS		M20		Pcs	30.00	
7	Y	1000048277	68.80.58.072.9	37.110		NUT LCK HEX BRASS MTR 25MM	BRASS		M25		Pcs	12.00	BS3643
8	AA	1000048319	68.80.58.730.1			CABLE GLAND 501/453-0	BRASS		M20		Pcs	53.00	
9	AB	1000048321	68.80.58.734.1	37.110		GLND CBL W/FLMPROF PVC SWA BS6121/25	BRASS		M25		Pcs	12.00	BS6121, TYPE E1 WF
10	AD	1000048327	68.80.58.802.9			GLND CBL ADPT 1/2"NPT 20MM	BRASS		½" NPTxM20		Pcs	8.00	
11	AP	1000211202	74.13.10.069.9			PIPE MET API 5L-B 40 DN50	CARBON STEEL		2"		Mtrs	17.00	
12	AQ	10000211233	74.13.12.103.9			PIPE MET API 5L-B 40 DN80	CARBON STEEL		3"		Pcs	3.00	
13	BP	1000106870	76.30.15.052.1			CAP PIPE BW WPB 80 DN50	CARBON STEEL		2"		Pcs	7.00	
14	BQ	1000053436	76.30.72.235.1			REC BW WPB 40 DN80X50	CARBON STEEL		3" x 2"		Pcs	3.00	
15	CC	1000055943	76.39.27.152.9	37.320		CONN TUBE CPT MAL 316 316 1/2X1/2"	AISI 316		½" NPT x ½" OD		Pcs	3.00	
16	CF	1000056003	76.39.67.040.1	37.320		PLUG TUB CPT 316 1/4IN	AISI 316		¼" NPT		Pcs	22.00	
17	CJ	1000062573	78.39.02.121.1			FLAT BAR (6Mtrs LONG)	MILD STEEL		50 x 6 mm		Pcs	2.00	
18	CL	1000062605	78.43.30.108.1			STEEL PLATE (2000x1000x3)	MILD STEEL		3mm THICK		Pcs	1.00	
19	CM	1000062606	78.43.30.116.1			SHT PLT SLD MET 2000X1000 6MM	MILD STEEL		6 mm THK		Pcs	1.00	
20	CN	1000062608	78.43.30.124.1			SHT PLT SLD MET 2000X1000 10MM	MILD STEEL		10 mm THK		Pcs	1.00	
21	CQ	1000062629	78.47.01.352.1			ANGL MTL EQ STL 6M L50X50X6MM	MILD STEEL		50 x 50 x 6 mm		Pcs	3.00	
22	CR	1000051996	74.48.50.073.9	37.310		TUBE MET INSTR 1/2IN 18SWG 0.048IN	AISI 316		½" OD		Mtrs	5.00	
23	CY	1000062961	81.01.77.192.1			BLT HEX CL.8.8 COARSE 60MM M10	CARBON STEEL		M10 x 60 mm		Pcs	5.00	
24	DA	1000062977	81.26.25.133.1			BLT FND CL.4.6 MC 110MM M12	CARBON STEEL		M12 x 110 mm		Pcs	20.00	
25	DH	1000063819	81.41.77.018.1			NUT MTR CL.8 HEX ISO 724 M10	CARBON STEEL		M10		Pcs	5.00	
26	DU	1000062984	81.26.86.022.9			U-BOLT FOR 1/2" PIPE C/W NUTS & SPRING WASHER	AISI 316		M8		Pcs	16.00	
27	DV	1000062987	81.26.86.040.9			U-BOLT DN50	AISI 316		M10		Pcs	41.00	
28	EA	1000048204	68.80.50.942.9			CABLE TIES 12/BLACK			4x140 mm		-	NOTE-1	
29	EB	1000048103	68.79.02.004.9			CARRIER STRIP BLACK 7 DIGITS					-	NOTE-1	
30	EC	1000048115	68.79.02.004.9			CABLE MARKER TYPE KS			80		-	NOTE-1	
31	ED	1000062537	68.79.02.018.1			PLAIN STRIP			250x19x1.6 mm		-	NOTE-1	
32	EE	1000048112	68.79.02.018.1			CORE MARKER MODLE ZS-5			D=1.5-2.0 mm		-	NOTE-1	
33	EK	1000047959	68.76.54.004.9			CABLE CHANNEL 2M LONG	GI		100 mm WIDE		Mtrs	100.00	BS2989, GROUP2, CLASS-E
34	EO	1000047964	68.76.54.052.9			CABLE CHANNEL BEND 90 DEG.	GI		100 mm WIDE		Pcs	50.00	BS2989, GROUP2, CLASS-E
35	ES	1000047982	68.76.81.024.9			CABLE TILE			1000x244x6 mm		Pcs	250.00	
36						NAME PLATE (AS PER NAME PLATE DETAILS)			(TYPE A & B)		Pcs	NOTE-2	
37						PRESSURE TRANSMITTER	NOTE-3		-		Pcs	1.00	
38						PRESSURE GAUGE	NOTE-3		-		Pcs	9.00	
39						DIFFERENTIAL PRESSURE TRANSMITTER	NOTE-3		-		Pcs	3.00	
40						RADR LEVEL TRANSMITTER	NOTE-3		-		Pcs	4.00	
41						TEMPERATURE TRANSMITTER	NOTE-3		-		Pcs	1.00	
42						ULTRASONC FLOW METER (STRAP-ON TYPE)	NOTE-3		-		Pcs	1.00	
43						PNEUMATIC On-Off VALVE, RB, 6", 300#	NOTE-3		-		Pcs	1.00	
44		1000039291	60.04.69.302.9			PUSH BUTTON, EFS-110			-		Pcs	5.00	
45						HEAT DETECTOR	NOTE-3		-		Pcs	2.00	
46						LEVEL GAUGE	NOTE-3		-		Pcs	1.00	
47						HOOTER (AUDIBLE ALARM)	NOTE-3		-		Pcs	1.00	
48		1000047918	68.76.40.014.9			JUNCTION BOX EEx II T6			20 TERMINALS		Pcs	3.00	
50						RTU WITH RADIO MODULE	NOTE-4						
51						GATEWAY	NOTE-4						
	NOTE -1 : QUANTITIES TO BE DETERMINED AND MATERIAL TO BE SUPPLIED BY CONSTRUCTION CONTRACTOR.												
	NOTE -2 : REFER DRAWING No. NIM -5-4739-DQ-4												
	NOTE -3 : AS PER SPECIFICATION PREPARED UNDER THIS PROJECT.												
	NOTE -4 : FREE ISSUE BY PDO												

INSTRUMENT ENGINEERING DATA SHEETS

NIMR SLUDGE PIT AREA

Vendor details to be provided

15/4/2011

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	B.I. NO	PROJ. ENG.	SIGNATURE
A	MAR.'11	KK			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/23N	
0	DEC.'10	Hilal	PT	KDA	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	IH

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJECT WBS. No. NIM.IN.09.011

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.

PDO APPROVAL

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INSTR. ENGINNERING DATA SHEET

DESCRIPTION : COVER SHEET

SCALE : CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4743	000	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

Group 30								Group 31				Group 32				Group 33		Group 3			
General instrumentation								Analyser and sundry instruments				Flow elements 1)		Flow instruments		Level instruments		Pressure gauges		Pressure instruments	
Sheet	Revision	Sheet	Revision	Sheet	Revision	Sheet	Revision	Sheet	Revision	Sheet	Revision	Sheet	Revision	Sheet	Revision	Sheet	Revision	Sheet	Revision	Sheet	Revision
000	0 A	050		100		150	0 A	200		250		300		350	0 A	400	0 A	500	0 A	550	0 A
001	0 A	051		101		151		201		251		301		351		401		501		551	0 A
002		052		102		152		202		252		302		352		402		502		552	
003		053		103		153		203		253		303		353		403		503		553	
004		054		104		154		204		254		304		354		404		504		554	
005		055		105		155		205		255		305		355		405		505		555	
006		056		106		156		206		256		306		356		406		506		556	
007		057		107		157		207		257		307		357		407		507		557	
008		058		108		158		208		258		308		358		408		508		558	
009		059		109		159		209		259		309		359		409		509		559	
010	0 A	060		110		160		210		260		310		360		410		510		560	
011		061		111		161		211		261		311		361		411		511		561	
012		062		112		162		212		262		312		362		412		512		562	
013		063		113		163		213		263		313		363		413		513		563	
014		064		114		164		214		264		314		364		414		514		564	
015		065		115		165		215		265		315		365		415		515		565	
016		066		116		166		216		266		316		366		416		516		566	
017		067		117		167		217		267		317		367		417		517		567	
018		068		118		168		218		268		318		368		418		518		568	
019		069		119		169		219		269		319		369		419		519		569	
020		070		120		170		220		270		320		370		420		520		570	
021		071		121		171		221		271		321		371		421		521		571	
022		072		122		172		222		272		322		372		422		522		572	
023		073		123		173		223		273		323		373		423		523		573	
024		074		124		174		224		274		324		374		424		524		574	
025		075		125		175		225		275		325		375		425		525		575	
026		076		126		176		226		276		326		376		426		526		576	
027		077		127		177		227		277		327		377		427		527		577	
028		078		128		178		228		278		328		378		428		528		578	
029		079		129		179		229		279		329		379		429		529		579	
030		080		130		180		230		280		330		380		430		530		580	
031		081		131		181		231		281		331		381		431		531		581	
032		082		132		182		232		282		332		382		432		532		582	
033		083		133		183		233		283		333		383		433		533		583	
034		084		134		184		234		284		334		384		434		534		584	
035		085		135		185		235		285		335		385		435		535		585	
036		086		136		186		236		286		336		386		436		536		586	
037		087		137		187		237		287		337		387		437		537		587	
038		088		138		188		238		288		338		388		438		538		588	
039		089		139		189		239		289		339		389		439		539		589	
040		090		140		190		240		290		340		390		440		540		590	
041		091		141		191		241		291		341		391		441		541		591	
042		092		142		192		242		292		342		392		442		542		592	
043		093		143		193		243		293		343		393		443		543		593	
044		094		144		194		244		294		344		394		444		544		594	
045		095		145		195		245		295		345		395		445		545		595	
046		096		146		196		246		296		346		396		446		546		596	
047		097		147		197		247		297		347		397		447		547		597	
048		098		148		198		248		298		348		398		448		548		598	
049		099		149		199		249		299		349		399		449		549		599	

Group 35								roup 36	
Multipoint temp.indicators		Temperature instruments		Local temp. indicators		Thermowells		Control valves	
Sheet	Revision	Sheet	Revision	Sheet	Revision	Sheet	Revision	Sheet	Revision
600		625	0 A	650		675		700	
601		626		651		676		701	
602		627		652		677		702	
603		628		653		678		703	
604		629		654		679		704	
605		630		655		680		705	
606		631		656		681		706	
607		632		657		682		707	
608		633		658		683		708	
609		634		659		684		709	
610		635		660		685		710	
611		636		661		686		711	
612		637		662		687		712	
613		638		663		688		713	
614		639		664		689		714	
615		640		665		690		715	
616		641		666		691		716	
617		642		667		692		717	
618		643		668		693		718	
619		644		669		694		719	
620		645		670		695		720	
621		646		671		696		721	
622		647		672		697		722	
623		648		673		698		723	
624		649		674		699		724	

REMARKS

1) Includes restriction orifices (RO)

REV	DATE	DRAWN BY	TEAML. CHECKED	J.ENG. CHECKED	DESCRIPTION	B.I. NO	PROJ. ENG. P D O APPROVAL	SIGNATURE P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INSTR.ENGINEERING DATA SHEET

DESCRIPTION : REVISION/INDEX SHEET

SCALE : 0 1 2 3 4 5 6 7

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	5	4743	001	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

Data sheet f
MISCELLANEOUS IN .UMENTS

Tag No. 48–	Service	Miscellaneous Instrument Description	Requisition Sub–gr Ser. No FP/	Manufacturer	Description Model Type	Board or Local	Notes	Tag No. 48– / PEFS No. NIM–1
HS–2219	PUMP P–48357	PUSH BUTTON	–	–	–	L	1)	HS–2219
	LOCAL START/STOP							2638–001–DQ
HS–2658	PUMP P–48357	RESET PUSH BUTTON	–	–	–	L	1)	HS–2658
	LOCAL RESET							2638–001–DQ
HS–2220	PUMP P–48358	PUSH BUTTON	–	–	–	L	1)	HS–2220
	LOCAL START/STOP							2638–001–DQ
HS–2660	PUMP P–48358	RESET PUSH BUTTON	–	–	–	L	1)	HS–2660
	LOCAL RESET							2638–001–DQ
HS–2661	PUMP P–48359	PUSH BUTTON	–	–	–	L	1)	HS–2661
	LOCAL START/STOP						2)	2640–001–DQ
HS–2662	PUMP P–48360	PUSH BUTTON	–	–	–	L	1)	HS–2662
	LOCAL START/STOP						2)	2640–001–DQ
			–	–	–			
HS–2663	PUMP P–48359	RESET PUSH BUTTON				L	1)	HS–2663
	LOCAL RESET						2)	2640–001–DQ
HS–2664	PUMP P–48360	RESET PUSH BUTTON	–	–	–	L	1)	HS–2664
	LOCAL RESET						2)	2640–001–DQ

1) PROCUREMENT NOT BY WPAI, HENCE VENDOR DETAILS NOT AVAILABLE.
2) BY CHEMICAL SKID VENDOR.

NOTES/REFERENCE DRAWINGS
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR
SUB AREA : NIMR SLUDGE PIT   NO. 05
DRWG.TYPE : INSTR. ENGINNERING DATA SHEET
DESCRIPTION : MISCELLANEOUS INSTRUMENTS

SCALE : 0 1 2 3 4 5 6 7   CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4743	010	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

	Data sheet for MIS NEOUS INSTRUMENTS	Design book No. : / Contr. Job No. :

Tag No. 48-	Service	Components	Requisition No.	Supplier	Model No./Type	Range or Set point	Board or Local or Rack	Remarks	Tag No. 48- / P E F S No. NIM-1-
XZA-2342	P-48357 FIRE DETECTION	HEAT DETECTOR	RQ-5010	–	–	107°C		1)	XZA-2342
									2638-001-DQ
XZA-2343	P-48358 FIRE DETECTION	HEAT DETECTOR	RQ-5010	–	–	107°C		1)	XZA-2343
									2638-001-DQ
XA-4106	P-48307/8 FIRE DEALARM	HOOTER	RQ-5011	–	–			1)	XA-4106
									2638-001-DQ

REMARKS AND/OR DESCRIPTION OF REVISIONS

1) PROCUREMENT NOT BY WPAI, HENCE VENDOR DETAILS NOT AVAILABLE.

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INST. ENGINEERING DATA SHEET

DESCRIPTION : MISCELLANEOUS INSTRUMENTS

SCALE : — CAD DRAWING 0 1 2 3 4 5 6 7

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4743	150	DQ	3	A

Data sheet for
FLOW INSTRUME

Tag No. 48-	GENERAL: Service	GENERAL: Fluid	OPERATING CONDITION: Gas or Vapour M.W. / Liquid spec. grav. at working temp.	Visc. at working temp. mPas	Normal temp. °C	Normal press. KPa(g)	Flow SM^3/D Normal	Flow SM^3/D Maximum	INSTRUMENTS: Components e.g. Orifice plate Orifice Flange Transmitter Rec. Controller	Requisition Sub–gr Ser. No FP/5085	Manufacturer	Description Model Type	Range m^3/d	Primary Element: Line Size & Sch.	Primary Element: Orifice Diameter and/or Material MM	Control Actions e.g. P.I.D.	Board or Local	Notes	TAG No. 48– / PEFS No. NIM–1–
FI–1414	PUMPS COMMON	SLUDGE OIL	0.93–	104–	25–	300–	140	154	TRANSMITTER	RQ–5002			0–170 m^3/d					1)	FI–1414
	DISCHARGE FLOW		1.0	4860	50	3935													2638–001–DQ
FI–1415	OXYGEN SCAVENGER	SLUDGE OIL	0.93–	104–	25–	300–	140	154	TRANSMITTER	RQ–5002			–					1)	FI–1415
	PUMPS COMMON		1.0	4860	50	3935													2640–001–DQ
	DISCHARGE FLOW																		

1) PROCUREMENT NOT BY WPAI, HENCE VENDOR DETAILS NOT AVAILABLE.

NOTES/REFERENCE DRAWINGS
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR
SUB AREA : NIMR SLUGE PIT   NO. 05
DRWG.TYPE : INSTR.ENGINEERING DATA SHEET
DESCRIPTION : FLOW INSTRUMENTS

SCALE : 0 1 2 3 4 5 6 7   CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4743	350	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

			Data sheet for L INSTRUMENTS														Design book No. : p	
																	Contr. Job No. :	
	GENERAL		OPERATING CONDITIONS			INSTRU												
Tag No. 48-.......	Service	Fluid	Gas or vapour MW / Liquid spec.grav. at working temp.	Normal temp. °C	Normal pressure kPa(g)	Components e.g. Transmitter Rec. controller etc.	Requisition sub-group serial numbers FP7009/	Manufacturer	Description Model Type	Range	Primary element Parts e.g. Body Displacer Torque tube	Primary element Material	Vessel connections Size Flange rating	Control actions P.I.D	Board or Local or Rack	Remarks	Tag No. 48- / P E F S No. NIM-1-
LIA-1447	SLUDGE PIT A-48307 LEVEL	SLUDGE OIL	913–	25–	ATM	RADAR & LEVEL	RQ-5004	–	–	–	–	–	3"-150#	–	1)		LIA-1447
			1000	50		TRANSMITTER											2638-001-DQ
						(NON CONTACT TYPE)											
LIZA-1448	SLUDGE PIT A-48307 LEVEL	SLUDGE OIL	913–	25–	ATM	RADAR & LEVEL	RQ-5004	–	–	–	–	–	3"-150#	–	1)		LIZA-1448
			1000	50		TRANSMITTER											2638-001-DQ
						(NON CONTACT TYPE)											
LIZA-1451	SLUDGE PIT A-48308 LEVEL	SLUDGE OIL	913–	25–	ATM	RADAR & LEVEL	RQ-5004	–	–	–	–	–	3"-150#	–	1)		LIZA-1451
			1000	50		TRANSMITTER											2638-001-DQ
						(NON CONTACT TYPE)											
LIA-1452	SLUDGE PIT A-48308 LEVEL	SLUDGE OIL	913–	25–	ATM	RADAR & LEVEL	RQ-5004	–	–	–	–	–	3"-150#	–	1)		LIZA-1452
			1000	50		TRANSMITTER											2638-001-DQ
						(NON CONTACT TYPE)											
LIZA-1450	OXYGEN SCAVENGER DOSING	SLUDGE OIL	913–	25–	ATM	DP LEVEL	–	–	–	–	–	–	–	–	1)		LIZA-1450
	TANK LEVEL		1000	50		TRANSMITTER									2)		2640-001-DQ
LIA-1449	OXYGEN SCAVENGER DOSING	SLUDGE OIL	913–	25–	ATM	DP LEVEL	–	–	–	–	–	–	–	–	1)		LIZA-1449
	TANK LEVEL		1000	50		TRANSMITTER									2)		2640-001-DQ

Use:
2 lines for LG
3 lines for LI,LR,LC
4 lines for LIC,LRC,LA
5 lines for LIA,LRA
6 lines for LICA,LRCA

REMARKS AND/OR DESCRIPTION OF REVISIONS

1) PROCUREMENT NOT BY WPAI, HENCE VENDOR DETAILS NOT AVAILABLE.
2) BY CHEMICAL SKID VENDOR.

AREA : NIMR
SUB AREA : NIMR SLUDGE PIT NO. 05
DRWG.TYPE : INST. ENGINEERING DATA SHEET
DESCRIPTION : LEVEL INSTRUMENTS

SCALE : – 0 1 2 3 4 5 6 7
CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4743	400	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

Data sheet for
ESSURE GAUGES

Design book No. :
Contr. Job No. : –

Tag No. 48–	Service (GENERAL)	Fluid (GENERAL)	OPERATING CON: Gas or vapour MW / Liquid sp. gr. at work temp.	Normal temp. °C	Static pressure Kpa(a) Min.	Norm.	ΔP Kpa Max.	RUMENT: Components e.g. Transmitter Rec. Controller etc.	Requisition sub-group serial numbers	Manufacturer	Description Model	Description Type	Range Kpa(g) or ΔP kPa	Primary element Type protected non-protected	Primary element Material	Control actions P.I.D	Board or local or Aux. room	Remarks	Tag No. 48– / P E F S No. NIM-1–
PG-1530	PUMP P-48357	SLUDGE OIL	913–	25–	0	3935	4500	GUAGE					0-6000	BOURDON			L	1)	PG-1530
	DISCHARGE PRESSURE		1000	50															2638-001
																			-DQ
PG-1531	PUMP P-48358	SLUDGE OIL	913–	25–	0	3935	4500	GUAGE					0-6000	BOURDON			L	1)	PG-1531
	DISCHARGE PRESSURE		1000	50															2638-001
																			-DQ
PG-1532	COMMON DISCHARGE	SLUDGE OIL	913–	25–	0	3935	4500	GUAGE					0-6000	BOURDON			L	1)	PG-1532
	LINE PRESSURE		1000	50															2639-001
																			-DQ
PG-1538	A-48305 PIG LAUNCHER	SLUDGE OIL	913–	25–	0	0	4500	GUAGE					0-6000	BOURDON			L	1)	PG-1538
	PRESSURE		1000	50															2639-001
																			-DQ
PG-1539	A-48305 PIG	SLUDGE OIL	913–	25–	0	0	4500	GUAGE					0-6000	BOURDON			L	1)	PG-1539
	LAUNCHER PRESS.		1000	50															2639-001
																			-DQ
PG-1534	OXYGEN SCAVENGER	OXYGEN						GUAGE						BOURDON			L	1), 2)	PG-1534
	PUMP P-48359 DISCH.	SCAVENGER																	2640-001
	PRESSURE																		-DQ
PG-1535	OXYGEN SCAVENGER	OXYGEN						GUAGE									L	1), 2)	PG-1535
	PUMP P-48360 DISCH.	SCAVENGER												BOURDON					2640-001
	PRESSURE																		-DQ

Use:
2 lines for P and PI – local
3 lines for PI,PR,PC
4 lines for PIC,PRC,PA,PdI,PdR
5 lines for PIA,PRA,PdA,PdIC,PdRC
6 lines for PICA,PRCA,PdIA,PdRA
7 lines for PdICA,PdRCA

REMARKS AND/OR DESCRIPTION OF REVISIONS

1) PROCUREMENT NOT BY WPAI, HENCE VENDOR DETAILS NOT AVAILABLE.
2) BY CHEMICAL SKID VENDOR.

AREA : NIMR
SUB AREA : NIMR SLUDGE PIT NO. 05
DRWG.TYPE : INST. ENGINEERING DATA SHEET
DESCRIPTION : PRESSURE GAUGES

SCALE : – 0 1 2 3 4 5 6 7 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4743	500	DQ	3	0

Data sheet for
PRESSURE INSTRUI[illegible]TS

Tag No. 48-	GENERAL: Service	GENERAL: Fluid	OPERATING CONDITIONS: Gas or Vapour M.W. / Liquid spec. grav. at working temp.	Norm. temp. °C	Static Press. KPa(g) Min.	Norm.	Max. (Δp)	INSTRUMENTS: Components, e.g. Transmitter Rec. Controller	Requi-Requisition Sub-gr.	Manufacturer	Description	Range kPa(g) or Λ	Primary Element: Type	Primary Element: Material	Control Actions e.g.	Board or Local	Notes	TAG No. 48- / PEFS No. NIM-1-
PIZA-1516	PIPE LINE PRESS.	SLUDGE OIL	0.93–	25–	0	3935	4500	PRESS. TRANSMITTER	RQ-5005			0–6000	dp CELL	SOSS		L	1)	PIZA-1516
			10	50														2638-001-DQ
PIZA-1518	OXYGEN SCAVENGEN PUMP	OXYGEN	–	–	–		–	–	–			–					1), 2)	PIZA-1518
	P-48359 DIAPHRAGM FAILURE	SCAVENGER																2638-001-DQ
PIZA-1519	OXYGEN SCAVENGER PUMP	OXYGEN	–	–	–		–	–	–			–					1), 2)	PIZA-1519
	P-48360 DIAPHRAGM FAILURE	SCAVENGER																2640-001-DQ
PI-1522	OXYGEN SCAVENGER PUMP	OXYGEN	–	–	–		–	–	–			–					1), 2)	PIZA-1522
	COMMON DUCH. PRESS.	SCAVENGER																2640-001-DQ

1) PROCUREMENT NOT BY WPAI, HENCE VENDOR DETAILS NOT AVAILABLE.
2) BY CHEMICAL SKID VENDOR

NOTES/REFERENCE DRAWINGS
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR
SUB AREA : NIMR SLUDGE PIT — NO. 05
DRWG.TYPE : INSTR.ENGINEERING DATA SHEET
DESCRIPTION : PRESSURE INSTRUMENTS

SCALE : 0 1 2 3 4 5 6 7 — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	5	4743550	DQ	3	A	

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

Data sheet for
URE INSTRUMENTS

Design book No. : page

Contr. Job No. : PAIP00238

Tag No. 48-	GENERAL: Service	GENERAL: Fluid	OPERATING CON: Gas or vapour MW / Liquid sp. gr./density at work temp.	Normal temp. °C	Static pressure Kpa(a) Min.	Norm.	ΔP Kpa Max.	RUMENT: Components e.g. Transmitter Rec. Controller etc.	Requisition sub-group serial numbers	Manufacturer	Description: Model	Type	Range Kpa(g) or ΔP kPa	Primary element: Type protected non-protected	Material	Control actions P.I.D	Board or local or Aux. room	Remarks	Tag No. 48- / P E F S No. NIM-1-
PDIA-1520	DP-ACROSS FILTER	SLUDGE OIL	0.93-	25-	0	10	100	ΔP TRANSMITTER	RQ				0-200	dp CELL	SDSS		L	1)	PDIA-1520
	S-48362		10	50					5005										2638-001
																			-DQ
PDIA-1521	DP-ACROSS FILTER	SLUDGE OIL	0.93-	25-	0	10	100	ΔP TRANSMITTER	RQ				0-200	dp CELL	SDSS		L	1)	PDIA-1521
	S-48363			50					5005										2638-001
																			-DQ

Use:
2 lines for P and PI - local
3 lines for PI,PR,PC
4 lines for PIC,PRC,PA,PdI,PdR
5 lines for PIA,PRA,PdA,PdIC,PdRC
6 lines for PICA,PRCA,PdIA,PdRA
7 lines for PdICA,PdRCA

REMARKS AND/OR DESCRIPTION OF REVISIONS

1) PROCUREMENT NOT BY WPAI, HENCE VENDOR DETAILS NOT AVAILABLE.

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : INST. ENGINEERING DATA SHEET

DESCRIPTION : PRESSURE INSTRUMENTS

SCALE : — CAD DRAWING

0 1 2 3 4 5 6 7

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4743	551	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

Data sheet for
T ATURE INSTRUMENTS

Design book No. :
Contr. Job No. : CO 1352

Tag No. 48–	GENERAL: Service	GENERAL: Fluid	OPERATING CONDITIO.: Temperature °C Min.	Temperature °C Norm.	Temperature °C Max.	Normal pressure kPa(g)	INS. NT: Components e.g. Transmitter Rec. Controller etc.	Requisition sub-group serial numbers FP 3609/	Supplier	Description Model Type	Range °C	Protecting well: Type Length mm	Protecting well: Inside dia. mm	Protecting well: Material	Control actions P.I.D	Board or local or Nest	Remarks	Tag No. 48– / P E F S No. NIM–1–
TIA–1468	PUMPS P–48357/8 COMMON	SLUDGE OIL	5	25	60	300–	TEMPRATURE	RQ–5008			0–100°C	L				L	1)	TIA–1468
	DISCH. TEMPERATURE					3935	TRANSMITTER											2638–001–DQ

Use:
2 lines for TW,TI (local)
3
4 lines for TI,TC,TR
5 lines for TA,TRC,TIC
6 lines for TIA,TRA
7 lines for TICA,TRCA
(3 + n)lines for multipoint TI and TR

REMARKS AND/OR DESCRIPTION OF REVISIONS

1) PROCUREMENT NOT BY WPAI, HENCE VENDOR DETAILS NOT AVAILABLE.

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INST. ENGINEERING DATA SHEET

DESCRIPTION : TEMPERATURE INSTRUMENTS

SCALE : — 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4743625		DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

INSTRUMENT NAMEPLATES

NIMR WASTE MANAGEMENT COMPLEX

NIMR SLUDGE PIT

NOTES:

1) THE NAME PLATES TO BE SUPPLIED BY CONTRACTOR AS PER DETAILS PROVIDED & TO BE INSTALLED AT SITE.

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	B.I. NO	P D O APPROVAL PROJ. ENG.	P D O APPROVAL SIGNATURE
A	MAR.'11	KK	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/23N	
0	DEC.'10	Mrp	PT	KDA	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	IH

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

AREA : NIMR

SCALE : — 0 1 2 3 4 5 6 7

CAD DRAWING

SUB AREA : NIMR SLUDGE PIT NO. 05

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG.TYPE : INSTRUMENT NAME PLATES

DESCRIPTION : COVER SHEET

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4739	001	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

DESCRIPTION	SHEET	REV. 0	REV. A	REV. B	REV. C	REV. D	REV. E
COVER SHEET	001	DEC.'10	MAR.'11				
REVISION/INDEX SHEET	002	DEC.'10	MAR.'11				
TYPES OF NAMEPLATES	003	DEC.'10	MAR.'11				
ENGRAVING SCHEDULE (TYPE-A)	004	DEC.'10	MAR.'11				
ENGRAVING SCHEDULE (TYPE-A)	005	DEC.'10	MAR.'11				
ENGRAVING SCHEDULE (TYPE-A)	006	DEC.'10	MAR.'11				
ENGRAVING SCHEDULE (TYPE-A)	007	DEC.'10	MAR.'11				
SPARE	008						
ENGRAVING SCHEDULE (TYPE-B)	009	DEC.'10	MAR.'11				

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INSTRUMENT NAME PLATES

DESCRIPTION : REVISION/INDEX SHEET

SCALE : — CAD DRAWING

0 1 2 3 4 5 6 7

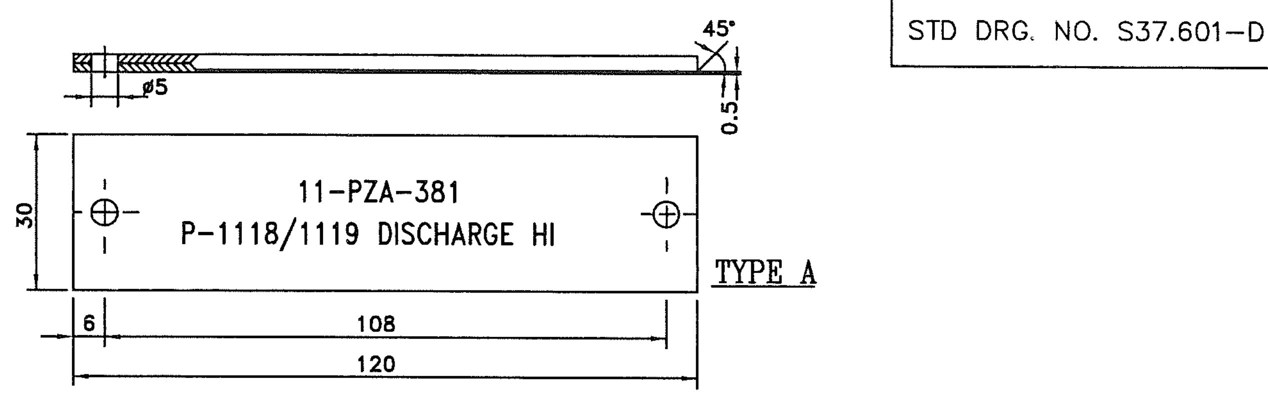
شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4739	002	DQ	4	A

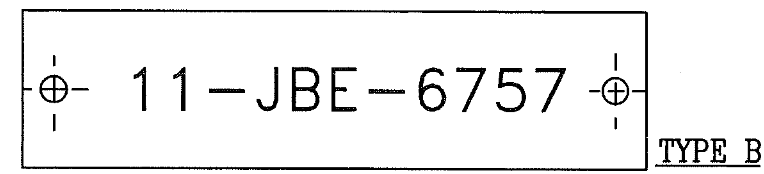
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

STD DRG. NO. S37.601-D



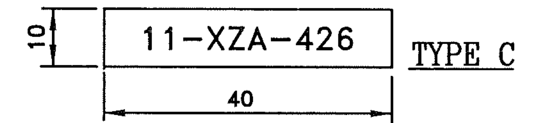
TYPE A

Engraving : Maximum 2 lines–25 characters per line letter height 5 mm.
First line to specify instrument tag number only.
Material : Laminated Plastic, approx. 3mm thick.



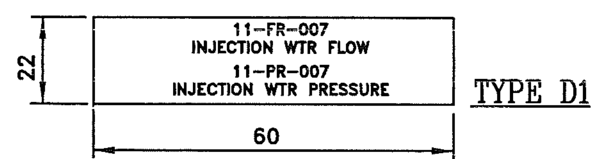
TYPE B

Engraving : Tag number only – 13 characters – letter height 10 mm.
Material : Laminated Plastic, approx. 3mm thick.
NOTE : Dimensions identical to type A



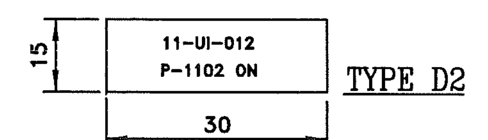
TYPE C

Engraving : Tag number only – 15 characters – letter height 3 mm.
Material : Laminated Plastic, approx. 2mm thick.



TYPE D1

Engraving : Maximum 4 lines 22 characters per line letter height 3 mm.
First line to specify instrument tag number only.
Material : Laminated Plastic, approx. 2mm thick.



TYPE D2

Engraving : Maximum 2 lines 10 characters per line letter height 3 mm.
First line to specify instrument tag number only.
Material : Laminated Plastic, approx. 2mm thick.

AREA	: NIMR	SCALE : –	CAD DRAWING
SUB AREA	: NIMR SLUDGE PIT	NO. 05	شركة تنمية نفط عمان Petroleum Development Oman
DRWG. TYPE	: INSTRUMENT NAME PLATES		
DESCRIPTION	: TYPES OF NAMEPLATES		

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4739	003	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

Issue	Qty	Text on nameplate	Type A Colour Note 1			Notes
0	1	48-LIA-1447	W	B	W	NOTE-1
		SLUDGE PIT A-48307 LEVEL				
0	1	48-LIZA-1448	R	B	R	NOTE-3
		SLUDGE PIT A-48307 LEVEL				
0	1	48-LIZA-1451	R	B	R	NOTE-3
		SLUDGE PIT A-48308 LEVEL				
0	1	48-LIA-1452	W	B	W	NOTE-1
		SLUDGE PIT A-48308 LEVEL				
0	1	48-TIA-1468	W	B	W	NOTE-1
		PUMPS COMMON DISC.TEMP.				
0	1	48-PIZA-1516	R	B	R	NOTE-3
		PUMPS COMMON DISCH.PRESS.				
0	1	48-FI-1414	W	B	W	NOTE-1
		PUMPS COMMON DISC.FLOW				
0	1	48-PDIA-1520	W	B	W	NOTE-1
		DP ACROSS FILTERS-48362				
0	1	48-PDIA-1521	W	B	W	NOTE-1
		DP ACROSS FILTERS-48363				
0	1	48-XZA-2342	R	B	R	NOTE-3
		HEAT DETECTOR P-48357				
0	1	48-XZA-2343	R	B	R	NOTE-3
		HEAT DETECTOR P-48358				
0	1	48-HS-2219A	W	B	W	NOTE-1
		P-48357 LOCAL START				
0	1	48-HS-2219B	W	B	W	NOTE-1
		P-48357 LOCAL STOP				
0	1	48-HS-2658	W	B	W	NOTE-1
		P-48357 LOCAL RESET				

NOTES:
1) Colour white/black/white unless otherwise indicated.
2) Colour red/white/red unless otherwise indicated.
3) Colour red/Black/red unless otherwise indicated.

AREA	: NIMR
SUB AREA	: NIMR SLUDGE PIT — NO. 05
DRWG.TYPE	: INSTRUMENT NAME PLATES
DESCRIPTION	: ENGRAVING SCHEDULE (TYPE-A)

SCALE : — 0 1 2 3 4 5 6 7 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4739	004	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

Issue	Qty	Text on nameplate (1–25)	Type A Colour Note 1			Notes
0	1	48-HS-2220A P-48358 LOCAL START	W	B	W	NOTE-1
0	1	48-HS-2220B P-48358 LOCAL STOP	W	B	W	NOTE-1
0	1	48-XA-4106 AUDIBLE ALARM PITS LVL HH	W	B	W	NOTE-1
0	1	48-UZV-2660 TANK T-4807 INLET ESDV	R	B	R	NOTE-3
0	1	48-GBS-2660 O/C STATUS OF 48UZV-2660	W	B	W	NOTE-1
0	1	48-HS-2660 P-48358 LOCAL LOCAL RESET	W	B	W	NOTE-1
0	1	48-HS-2230 LOCAL RESET 48-UZV-2660	W	B	W	NOTE-1
0	1	48-PDIZA-1523 DP ACROSS 48-UZV-2660	R	B	R	NOTE-3

NOTES:
1) Colour white/black/white unless otherwise indicated.
2) Colour red/white/red unless otherwise indicated.
3) Colour red/black/red unless otherwise indicated.

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INSTRUMENT NAME PLATES

DESCRIPTION : ENGRAVING SCHEDULE (TYPE-A)

SCALE : — CAD DRAWING
0 1 2 3 4 5 6 7

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4739	005	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

Issue	Qty	Text on nameplate	Type A Colour Note 1			Notes
0	1	48-HS-2661A P-48359 LOCAL START	W	B	W	NOTE-1
0	1	48-HS-2661B P-48359 LOCAL STOP	W	B	W	NOTE-1
0	1	48-HS-2662A P-48360 LOCAL START	W	B	W	NOTE-1
0	1	48-HS-2662B P-48360 LOCAL STOP	W	B	W	NOTE-1
0	1	48-HS-2663 P-48359 LOCAL RESET	W	B	W	NOTE-1
0	1	48-HS-2664 P-48360 LOCAL RESET	W	B	W	NOTE-1
0	1	48-LIZA-1450 OXY.SCAV.DOSING TANK LVL.	R	B	R	NOTE-3
0	1	48-LIA-1449 OXY.SCAV.DOSING TANK LVL.	W	B	W	NOTE-1
0	1	48-PIZA-1518 OXY.SCAV.P48359 DIPH.FAIL	R	B	R	NOTE-3
0	1	48-PIZA-1519 OXY.SCAV.P48360 DIPH.FAIL	R	B	R	NOTE-3
0	1	48-PI-1522 OXY.SCAV.PUMP DISC.PRESS.	W	B	W	NOTE-1
0	1	48-FI-1415 OXY.SCAV.PUMP DISC.FLOW	W	B	W	NOTE-1

NOTES:
1) Colour white/black/white unless otherwise indicated.
2) Colour red/white/red unless otherwise indicated.
3) Colour red/black/red unless otherwise indicated.

A-48309 (VENDOR PACKAGE)

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INSTRUMENT NAME PLATES

DESCRIPTION : ENGRAVING SCHEDULE (TYPE-A)

SCALE : — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4739	006	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

Issue	Qty	Text on nameplate	Type A Colour Note 1			Notes
0	1	48-PG-1530 PUMP P-48357 DISC.PRESS.	W	B	W	NOTE-1
0	1	48-PG-1531 PUMP P-48358 DISC.PRESS.	W	B	W	NOTE-1
0	1	48-PG-1532 COMMON DISC.LINE PRESSURE	W	B	W	NOTE-1
0	1	48-PG-1533 PRESSURE AT PIG RECEIVER	W	B	W	NOTE-1
0	1	48-PG-1534 PUMP P-48359 DISC.PRESS.	W	B	W	NOTE-1
0	1	48-PG-1535 PUMP P-48360 DISC.PRESS.	W	B	W	NOTE-1
0	1	48-PG-1538 A-48305 PIG LAUNCHER PRES	W	B	W	NOTE-1
0	1	48-PG-1539 A-48305 PIG LAUNCHER PRES	W	B	W	NOTE-1
0	1	48-PG-1540 A-48306 PIG RECEIVER PRES	W	B	W	NOTE-1
0	1	48-PG-1541 A-48306 PIG RECEIVER PRES	W	B	W	NOTE-1
0	1	48-PG-1542 T-4807 INLET LINE PRESS.	W	B	W	NOTE-1
0	1	48-PG-1545 T-4807 BYPASS LINE PRESS.	W	B	W	NOTE-1

NOTES:
1) Colour white/black/white unless otherwise indicated.
2) Colour red/white/red unless otherwise indicated.
3) Colour red/black/red unless otherwise indicated.

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INSTRUMENT NAME PLATES

DESCRIPTION : ENGRAVING SCHEDULE (TYPE-A)

SCALE : — 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4739	007	DQ	4	A

Issue	Qty	Text on nameplate 1	2	3	4	5	6	7	8	9	10	11	12	13	Type B Colour Note 1			Notes
0	1		4	8	–	J	B	E	–	6	9	0	7		W	B	W	
0	1		4	8	–	J	B	E	–	6	9	0	8		W	B	W	
0	1		4	8	–	J	B	E	–	6	9	0	9		W	B	W	
0	1		4	8	–	J	B	E	–	6	9	1	0		W	B	W	
0	1		4	8	–	J	B	E	–	6	9	1	1		W	B	W	

NOTES: 1) Colour white/black/white unless otherwise indicated.
2) Colour red/black/red.

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT NO. 05

DRWG.TYPE : INSTRUMENT NAME PLATES

DESCRIPTION : ENGRAVING SCHEDULE (TYPE–B)

SCALE : — CAD DRAWING

0 1 2 3 4 5 6 7

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4739	009	DQ	4	A

I.C.T.D

JUNCTION BOXES

NIMR SLUDGE PIT

THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJECT 'DQ' WBS No. NIM.IN.09.011

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	P D O APPROVAL PROJ. ENG.	P D O APPROVAL SIGNATURE
A	MAR.'11	KK	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/23N	[signature] 15/4/2011
0	DEC.'10	Mrp	PT	KDA	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	IH

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

AREA : NIMR

SCALE : — 0 1 2 3 4 5 6 7

CAD DRAWING

SUB AREA : NIMR SLUDGE PIT NO. 05

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG.TYPE : CABLE TERMINATION DETAILS

DESCRIPTION : COVER SHEET

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4742	001	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

DESCRIPTION	SHEET	REV. 0	REV. G	REV. H	REV. I	REV. 0	REV. A
COVER SHEET	001	DEC.'10	MAR.'11				
REVISION/INDEX SHEET	002	DEC.'10	MAR.'11				
SPARE	003						
48-JBE-6907	004	DEC.'10	MAR.'11				
48-JBE-6908	005	DEC.'10	MAR.'11				
48-JBE-6909	006	DEC.'10	MAR.'11				
48-JBE-6910	007	DEC.'10	MAR.'11				
48-JBE-6911	008	DEC.'10	MAR.'11				
	009						
	010						
	011						
	012						
	013						
	014						
	015						
	016						
	017						
	018						
	019						
	020						
	021						
	022						
	023						
	024						
	025						
	026						
	027						
	028						
	029						
	030						
	031						
	032						
	033						
	034						
	035						
	036						

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG. TYPE : CABLE TERMINATION DETAILS

DESCRIPTION : REVISION/INDEX SHEET

SCALE : —

CAD DRAWING

0 1 2 3 4 5 6 7

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4742	002	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

TAG. No. UNIT:48	EQUIPMENT CONNECTION	EXTN. CABLE No. SIZE: TYPE:	CORE	J.B. TERM'L	MULTICORE CABLE No. TYPE, SIZE AND CONNECTED TO	CORE
LIA-1447	+	E-2706 2x2x1.13mm	BK+B	1	48-E-6907	1BK
	–	XLPEI-MS-SWA-PVCS	G+BN	2	XLPEI-MS-SWA-PVCS	1B
LIZA-1448	+	E-2707 2x2x1.13mm	BK+B	3	10x2x0.8MM	2BK
	–	XLPEI-MS-SWA-PVCS	G+BN	4	48-RTU-0001	2G
TIA-1468	+	E-2708 2x2x1.13mm	BK+B	5		3B
	–	XLPEI-MS-SWA-PVCS	G+BN	6		3G
FI-1414	+	E-2709 2x2x1.13mm	BK+B	7		4BK
	–	XLPEI-MS-SWA-PVCS	G+BN	8		4BN
SPARE				9		5B
				10		5BN
				11		6G
				12		6BN
				13		7BK
				14		7W
				15		8B
				16		8W
				17		9G
				18		9W
				19		10BN
				20		10W

NOTE:

1. SCREENS TO BE CONNECTED TO AN ISOLATED EARTH BAR

AREA	: NIMR	SCALE : –	CAD DRAWING
SUB AREA	: NIMR SLUDGE PIT	NO. 05	شركة تنمية نفط عمان Petroleum Development Oman
DRWG.TYPE	: CABLE TERMINATION DETAILS		
DESCRIPTION	: 48-JBE-6907		

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4742	004	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

TAG. No. UNIT:48	EQUIPMENT CONNECTION	EXTN. CABLE No. SIZE: TYPE:		CORE	J.B. TERM'L	MULTICORE CABLE No. TYPE, SIZE AND CONNECTED TO	CORE
LIZA-1451	+	E-2710	2x2x1.13mm	BK+B	1	48-E-6908	1BK
	–		XLPEI-MS-SWA-PVCS	G+BN	2	XLPEI-MS-SWA-PVCS	1B
LIA-1452	+	E-2711	2x2x1.13mm	BK+B	3	10x2x0.8MM	2BK
	–		XLPEI-MS-SWA-PVCS	G+BN	4	48-RTU-0001	2G
PIZA-1516	+	E-2712	2x2x1.13mm	BK+B	5		3B
	–		XLPEI-MS-SWA-PVCS	G+BN	6		3G
PDIA-1520	+	E-2713	2x2x1.13mm	BK+B	7		4BK
	–		XLPEI-MS-SWA-PVCS	G+BN	8		4BN
PDIA-1521	+	E-2714	2x2x1.13mm	BK+B	9		5B
	–		XLPEI-MS-SWA-PVCS	G+BN	10		5BN
SPARE					11		6G
					12		6BN
					13		7BK
					14		7W
					15		8B
					16		8W
					17		9G
					18		9W
					19		10BN
					20		10W

NOTE:

1. SCREENS TO BE CONNECTED TO AN ISOLATED EARTH BAR

AREA	: NIMR		SCALE : — CAD DRAWING 0 1 2 3 4 5 6 7
SUB AREA	: NIMR SLUDGE PIT	NO. 05	شركة تنمية نفط عمان Petroleum Development Oman
DRWG.TYPE	: CABLE TERMINATION DETAILS		
DESCRIPTION	: 48-JBE-6908		

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4742	005	DQ	4	A

TAG. No. UNIT:48	EQUIPMENT CONNECTION	EXTN. CABLE No. SIZE: TYPE:	CORE	J.B. TERM'L	MULTICORE CABLE No. TYPE, SIZE AND CONNECTED TO	CORE
XZA-2342	+	E-2715 2x2x1.13mm	BK+B	1	48-E-6909	1BK
	–	XLPEI-MS-SWA-PVCS	G+BN	2	XLPEI-MS-SWA-PVCS	1B
XZA-2343	+	E-2716 2x2x1.13mm	BK+B	3	10x2x0.8MM	2BK
	–	XLPEI-MS-SWA-PVCS	G+BN	4	48-RTU-0001	2G
HS-2219A	+	E-2717A 2x2x1.13mm	BK+B	5		3B
	–	XLPEI-MS-SWA-PVCS	G+BN	6		3G
HS-2219B	+	E-2717B 2x2x1.13mm	BK+B	7		4BK
	–	XLPEI-MS-SWA-PVCS	G+BN	8		4BN
HS-2658	+	E-2718 2x2x1.13mm	BK+B	9		5B
	–	XLPEI-MS-SWA-PVCS	G+BN	10		5BN
HS-2220A	+	E-2719A 2x2x1.13mm	BK+B	11		6G
	–	XLPEI-MS-SWA-PVCS	G+BN	12		6BN
HS-2220B	+	E-2719B 2x2x1.13mm	BK+B	13		7BK
	–	XLPEI-MS-SWA-PVCS	G+BN	14		7W
HS-2660	+	E-2720 2x2x1.13mm	BK+B	15		8B
	–	XLPEI-MS-SWA-PVCS	G+BN	16		8W
SPARE				17		9G
				18		9W
				19		10BN
				20		10W

NOTE:

1. SCREENS TO BE CONNECTED TO AN ISOLATED EARTH BAR

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : CABLE TERMINATION DETAILS

DESCRIPTION : 48–JBE–6909

SCALE : — CAD DRAWING

0 1 2 3 4 5 6 7

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4742	006	DQ	4	A

TAG. No. UNIT:48	EQUIPMENT CONNECTION	EXTN. CABLE No. SIZE: TYPE:	CORE	J.B. TERM'L	MULTICORE CABLE No. TYPE, SIZE AND CONNECTED TO	CORE
HS-2661A	+	E-2723A 2x2x1.13mm	BK+B	1	48-E-6910	1BK
	–	XLPEI-MS-SWA-PVCS	G+BN	2	XLPEI-MS-SWA-PVCS	1B
HS-2661B	+	E-2723B 2x2x1.13mm	BK+B	3	10x2x0.8MM	2BK
	–	XLPEI-MS-SWA-PVCS	G+BN	4	48-RTU-0001	2G
HS-2662A	+	E-2724A 2x2x1.13mm	BK+B	5	↓	3B
	–	XLPEI-MS-SWA-PVCS	G+BN	6		3G
HS-2662B	+	E-2724B 2x2x1.13mm	BK+B	7		4BK
	–	XLPEI-MS-SWA-PVCS	G+BN	8		4BN
HS-2663	+	E-2725 2x2x1.13mm	BK+B	9		5B
	–	XLPEI-MS-SWA-PVCS	G+BN	10		5BN
HS-2664	+	E-2726 2x2x1.13mm	BK+B	11		6G
	–	XLPEI-MS-SWA-PVCS	G+BN	12		6BN
SPARE				13		7BK
				14		7W
↓				15		8B
				16		8W
				17		9G
				18		9W
				19		10BN
				20		10W

NOTE:

1. SCREENS TO BE CONNECTED TO AN ISOLATED EARTH BAR

AREA	: NIMR		SCALE : — 0 1 2 3 4 5 6 7 CAD DRAWING
SUB AREA	: NIMR SLUDGE PIT	NO. 05	شركة تنمية نفط عمان Petroleum Development Oman
DRWG.TYPE	: CABLE TERMINATION DETAILS		
DESCRIPTION	: 48-JBE-6910 (VENDOR JB)		

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4742	007	DQ	4	A

TAG. No. UNIT:48	EQUIPMENT CONNECTION	EXTN. CABLE No. SIZE: TYPE:	CORE	J.B. TERM'L	MULTICORE CABLE No. TYPE, SIZE AND CONNECTED TO	CORE
LIA-1449	+	E-2727 2x2x1.13mm	BK+B	1	48-E-6911	1BK
	–	XLPEI-MS-SWA-PVCS	G+BN	2	XLPEI-MS-SWA-PVCS	1B
LIZA-1450	+	E-2728 2x2x1.13mm	BK+B	3	10x2x0.8MM	2BK
	–	XLPEI-MS-SWA-PVCS	G+BN	4	48-RTU-0001	2G
PIZA-1518	+	E-2729 2x2x1.13mm	BK+B	5		3B
	–	XLPEI-MS-SWA-PVCS	G+BN	6		3G
PIZA-1519	+	E-2730 2x2x1.13mm	BK+B	7		4BK
	–	XLPEI-MS-SWA-PVCS	G+BN	8		4BN
PI-1522	+	E-2731 2x2x1.13mm	BK+B	9		5B
	–	XLPEI-MS-SWA-PVCS	G+BN	10		5BN
FI-1415	+	E-2732 2x2x1.13mm	BK+B	11		6G
	–	XLPEI-MS-SWA-PVCS	G+BN	12		6BN
SPARE				13		7BK
				14		7W
				15		8B
				16		8W
				17		9G
				18		9W
				19		10BN
				20		10W

NOTE:

1. SCREENS TO BE CONNECTED TO AN ISOLATED EARTH BAR

AREA : NIMR	SCALE : – CAD DRAWING 0 1 2 3 4 5 6 7
SUB AREA : NIMR SLUDGE PIT — NO. 05	شركة تنمية نفط عمان Petroleum Development Oman
DRWG.TYPE : CABLE TERMINATION DETAILS	
DESCRIPTION : 48-JBE-6911 (VENDOR JB)	

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4742	008	DQ	4	0

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

INST. IMPULSE LINES/
ELECTRO PNEUMATIC HOOK-UPS

FOR REVISION / INDEX SHEET REFFER SHEETS 002 ~ 004
FOR GENERAL NOTES REFFER SHEET 008
FOR BULK SUMMARY REFFER SHEETS 010 THRU 016

APPROVED FOR CONSTRUCTION

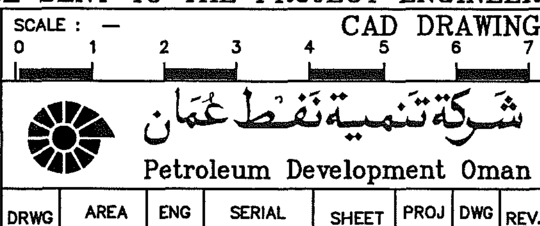
REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS NO.:	P D O APPROVAL REF. IND.	P D O APPROVAL SIGNATURE
A	MAR.'11	KK	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/23N	[signature] 15/4/201
0	DEC.'10	Mrp	PT	KDA	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	IH

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

AREA : NIMR

SCALE : — CAD DRAWING

SUB AREA : NIMR SLUDGE PIT NO. 05



DRWG.TYPE : INST. IMPULSE LINES/ELECTRO PNEU. HOOK-UPS

DESCRIPTION : COVER SHEET

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	001	DQ	4	A


WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

DESCRIPTION	SHEET	REV. 0	REV. A	REV. B	REV. C	REV. D	REV. E
COVER SHEET	001	DEC.'10	MAR.'11				
REVISION/INDEX SHEET	002	DEC.'10	MAR.'11				
REVISION/INDEX SHEET	003	DEC.'10	MAR.'11				
REVISION/INDEX SHEET	004	DEC.'10	MAR.'11				
	005						
	006						
	007						
GENERAL NOTES	008	DEC.'10	MAR.'11				
	009						
BULK MATERIAL SUMMARY	010	DEC.'10	MAR.'11				
BULK MATERIAL SUMMARY	011	DEC.'10	MAR.'11				
BULK MATERIAL SUMMARY	012	DEC.'10	MAR.'11				
BULK MATERIAL SUMMARY	013	DEC.'10	MAR.'11				
BULK MATERIAL SUMMARY	014	DEC.'10	MAR.'11				
BULK MATERIAL SUMMARY	015	DEC.'10	MAR.'11				
BULK MATERIAL SUMMARY	016	DEC.'10	MAR.'11				
	017						
	018						
RTD/TEMP. TRANSMITTER MOUNTING & CONNECTION DET.	019	DEC.'10	MAR.'11				
	020						
DIRECTED MOUNTED MOUDLER PRESSURE GAUGE	021	DEC.'10	MAR.'11				
REMOTE SEAL DIAPHRAGM TYPE PRESS. INSTRUMENT	022	DEC.'10	MAR.'11				
REMOTE SEAL DIAPHRAGM TYPE DIFF.PRES. INSTRUMENT	023	DEC.'10	MAR.'11				
	024						
	025						
	026						
	027						
	028						
INSTRUMENT CABLE TRENCHING DETAILS	029	DEC.'10	MAR.'11				
INSTR. CABLE CORE MARKERS/LOOMING/SLEEVING	030	DEC.'10	MAR.'11				
INSTRUMENT EARTHING DETAILS	031	DEC.'10	MAR.'11				
	032						
PNEUMATIC CONNECTION FOR ESD VALVES	033	DEC.'10	MAR.'11				
AIR SUPPLY DETAILS AS-2 IPF VALVES	034	DEC.'10	MAR.'11				
	035						

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INST. IMPULSE LINES/ELECTRO PNEU. HOOK-UPS

DESCRIPTION : REVISION/INDEX SHEET

SCALE : —

CAD DRAWING

0 1 2 3 4 5 6 7

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	002	DQ	A4	A

DESCRIPTION	SHEET	REV. 0	REV. A	REV. B	REV. C	REV. D	REV. E
	036						
	037						
	038						
	039						
	040						
HOOK-UP DETAILS – SOLENOID VALVE	041	DEC.'10	MAR.'11				
HOOK-UP DETAILS – TRANSMITTERS	042	DEC.'10	MAR.'11				
HOOK-UP DETAILS TYPICAL – SWITCHES/PUSH BUTTONS	043	DEC.'10	MAR.'11				
	044						
HOOK-UP DETAILS – HEAT DETECTOR	045	DEC.'10	MAR.'11				
HOOK-UP DETAILS – HOOTER	046	DEC.'10	MAR.'11				
HOOK-UP DETAILS – ULTRASONIC FLOW METER	047	DEC.'10	MAR.'11				
HOOK-UP DETAILS – JUNCTION BOX	048	DEC.'10	MAR.'11				
	049						
	050						
	051						
	052						
	053						
	054						
	055						
	056						
	057						
	058						
	059						
	060						
	061						
	062						
	063						
	064						
	065						
	066						
	067						
	068						
	069						
	070						

AREA : NIMR

SCALE : — CAD DRAWING 0 1 2 3 4 5 6 7

SUB AREA : NIMR SLUDGE PIT NO. 05

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG.TYPE : INST. IMPULSE LINES/ELECTRO PNEU. HOOK-UPS

DESCRIPTION : REVISION/INDEX SHEET

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	003	DQ	A4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

DESCRIPTION	SHEET	REV. 0	REV. A	REV. B	REV. C	REV. D	REV. E
TYPICAL ARAG. OF BEAM PUMP MONITORING EQUIPMENT	071						
CLINOMETOR & VIBRATION SW. ON BEAM BUMP	072						
LIST OF INST. TAGS-CLINOMETER	073						
LIST OF INST. TAGS-VIBRATION SWTICH	074						
LOAD CELL ON BEAM PUMP	075						
LIST OF INST. TAGS-LOAD CELL	076						
	077						
	078						
	079						
JB SUPPORT FOR BEAM PUMP	080						
	081						
	082						
	083						
	084						
ELECTRICAL HOOK-UP LOAD CELL	085						
ELECTRICAL HOOK-UP POSITION SENSOR	086						
ELECTRICAL HOOK-UP PRESS./TEMP./VIBRATION	087						
MCC / RPC / POWER DISTRIBUTION BOARD	088						
RPC TERMINATION DETAILS	089						
	090						
TAG PLATE (½" PROCESS CONNECTION)	091	DEC.'10	MAR.'11				
TAG PLATE (2" INST. PIPE SUPPORT)	092	DEC.'10	MAR.'11				
	093						
	094						
	095						
	096						
	097						
	098						
	099						
INSTRUMENT SUPPORT FOR HEAT DETECTOR	100	DEC.'10	MAR.'11				
	101						
INSTR. MOUNTING SUPPORT TYPE-S3 UNPAVED AREA	102	DEC.'10	MAR.'11				
JUNCTION BOX MOUNTING SUPPORT UNPAVED AREA	103	DEC.'10	MAR.'11				
	104						
	105						

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INST. IMPULSE LINES/ELECTRO PNEU. HOOK-UPS

DESCRIPTION : REVISION/INDEX SHEET

SCALE : — 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	004	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

DOCUMENTS TO BE REFERRED:

INSTRUMENT IMPULSE LINES

GENERAL NOTES:	STD-5-0811-005-00-4
	-006-00-4
	-007-00-4

ELECTRO-PNEUMATIC HOOK-UPS

SYMBOLS & LEGEND SHEET:	STD-5-0803-003-00-4

INSTRUMENT CABLE & PIPING INSTALLATION

GENERAL NOTES:	STD-5-0801-003-00-4
	-004-00-4
	-005-00-4
	-006-00-4
TYPICAL INSTALLATION DETAILS	STD-5-0801-009-00-4
	-010-00-4
INST. EARTHING PHILOSOPHY	STD-5-0801-013-00-4
INST. CABLE IDENTIFICATION	STD-5-0801-014-00-4
INST. CABLE CORE MARKERS/ LOOMING/SLEEVING	STD-5-0801-015-00-4
INST. CABLE FASTENING/CHANNELS	STD-5-0801-016-00-4
INST. CABLE TRENCH DETAILS	STD-5-0801-017-00-4
INST. CABLE ROUTE MARKER	STD-5-0801-019-00-4
CONCRETE BLOCK FOR SUPPORTS IN UNPAVED AREA	STD-5-0801-031-00-4
TAG PLATE (½" PROCESS CONN.)	STD-5-0811-091-00-4
TAG PLATE (2" INST. SUPPORT PIPE)	STD-5-0811-092-00-4

NOTE:

1) ALL OTHER NECESSARY MATERIAL AND ACCESSORIES WHICH ARE NOT LISTED IN THIS MTO AND NOT LIMITED TO GENERAL ITEMS, SUCH AS CABLE MARKERS, FERRULES, CABLE TIES, MOUNTING SUPPORTS, FIXING BRACKETS, SCREWS, NUTS, WASHERS, STUDS, TRAYS, SPLICE PLATES, TEES, ELBOWS, CHECKNUTS, BRASS OR GALVANISED STEEL END CAPS, CONDUIT, DUCTS, PVC/BRACE MOUTH FOR WATER/FIRE PROOF SEALING, PULL BOXES, SADDLES, SPACERS AND ANY OTHER CONSUMABLES REQUIRED FOR COMPLETION OF INSTALLATION WORK SHALL BE DETAILED/FURNISHED AND PROCURED BY THE CONSTRUCTION CONTRACTOR.

2) HOOK-UP SHOWN ON THIS DWG. IS DIAGRAMATIC ONLY. EXACT ORIENTAION, TAPPING POINT ETC.... SHALL BE AS PER PIPING G.A & ISOMETRIC.

AREA	: NIMR
SUB AREA	: NIMR SLUGDE PIT — NO. 05
DRWG.TYPE	: INST. IMPULSE LINES/ELECTRO PNEU. HOOK-UPS
DESCRIPTION	: GENERAL NOTES

SCALE : —

CAD DRAWING

0 1 2 3 4 5 6 7

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	008	DQ	A 4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

QTY	ITEM	SIZE	DESCRIPTION	MATERIAL	M.E.S.C.
–	018	–	BAKER CAC 8700 RPC	–	60.64.89.200.9
–	019	–	LOAD CELL	–	60.64.89.200.X
–	020	–	CLINOMETER	–	60.64.89.200.X
–	021	–	ANTENNA	–	60.64.89.200.X
–	041	–	DOUBLE ISOLATE/VENT ANTI–CONTAMINATION–TYPE 'B'	AISI 316	60.98.56.217.9
–	048	–	DOUBLE ISOLATE/EQUALIZE/VENT BLOCK–TYPE 'A'	AISI 316	60.98.56.207.9
–	054	–	ISOLATE/VENT GAUGE BLOCK–TYPE 'F'	AISI 316	60.98.56.315.9
–	064	–	ANTI TAMPER KEY	AISI 316	60.98.56.905.1
–	076	3/8"	SEAL POT WITH VENT VALVE	CS/AISI 316	60.98.70.610.1
–	301	M20	CONDUIT	GALV. STEEL	XX.XX.XX.XXX.X
13.5m	302	25mm DIA	HEAVY GAUGE CONDUIT	GALV. STEEL	70.13.04.025.1
–	303	M32	CONDUIT	GALV. STEEL	XX.XX.XX.XXX.X
–	311	m25	PVC CONDUIT	PVC	XX.XX.XX.XXX.X
–	313	m50	PVC CONDUIT	PVC	XX.XX.XX.XXX.X
–	419	3/8" OD	TUBING – WALL THICKNESS 0.065"	AISI 316	74.48.50.055.1
15m	420	–	CAPILLARY TUBE (BY VENDOR)	SS	XX.XX.XX.XXX.X
–	527	1/4" NPT	NEEDLE VALVE – SCREWED	AISI 316	77.34.08.001.1
–	528	1/2" NPT	NEEDLE VALVE – SCREWED	AISI 316	77.34.08.003.1
–	651	1/4" NPT x 35 mm	HEX PIPE NIPPLE – SCREWED	AISI 316	76.09.56.001.1
–	652	1/2" NPT X 45 mm	HEX PIPE NIPPLE – SCREWED	AISI 316	76.09.56.031.1
–	743	3/8" x 1/4" NPT	MALE CONNECTOR COMPRESSION TYPE	AISI 316	76.39.27.063.1
–	744	3/8" x 1/2" NPT	MALE CONNECTOR COMPRESSION TYPE	AISI 316	76.39.27.065.1
–	750	3/8"	UNION ELBOW COMPRESSION TYPE	AISI 316	76.39.44.065.1
–	756	3/8"	PLUG COMPRESSION TYPE	AISI 316	76.39.67.060.1
–	766	3/8"	UNION TEE COMPRESSION TYPE	AISI 316	76.39.85.063.1
–	772	3/8"	UNION COMPRESSION TYPE	AISI 316	76.39.91.063.1
–	780	3/8" x 1/2" NPT (F)	BULK HEAD FEMALE CONNECTOR	AISI 316	76.39.27.105.9
–	626	1/2"NPT x 51 mm	PIPE NIPPLE, SCREWED	CS	76.05.56.482.1
–	630	1/2"NPT	PLUG, SCREWED, HEX. HEAD	CS	76.05.66.008.1
–	635	1/2"NPT	TEE, SCREWED, 3000 # SEAMLESS	CS	76.05.84.108.1
–	727	3/8" x DN15	LAP JOINT COMPRESSION	SS	76.39.05.106.1
–	920	M4x40x40	BOLT HEX. HD	GALV	XX.XX.XX.XXX.X
–	921	M4	NUT HEX. HD	GALV	XX.XX.XX.XXX.X
–	922	M4	WASHER FLAT	GALV	XX.XX.XX.XXX.X

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INSTR. IMPULSE LINES & ELECTRO PNEU. HOOK–UPS

DESCRIPTION : BULK MATERIAL SUMMARY

SCALE : – 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	010	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

ITEM	QTY	SIZE	DESCRIPTION	MATERIAL	M.E.S.C.
A	–	1/4"NPT	FILTER REGULATOR RANGE 35–275kPa		60.98.34.612.9
B	–	1/4"NPT	FILTER REGULATOR RANGE 0–400kPa		60.98.34.616.9
C	–	1/4"NPT	FILTER REGULATOR RANGE 35–700kPa		60.98.34.700.9
D	–	1/2"NPT	FILTER REGULATOR RANGE 40–1000kPa		60.98.34.XXX.X
E	–	1/2"NPT Mx1/2"NPT F	SYPHON(DAMPENER)	AISI 316	60.98.55.XXX.X
F	–	3/8"NPT	PORT PROTECTOR	BRASS	60.98.90.XXX.1
G	–				
H	–	3/8" NPT	QUICK EXHAUST VALVE	ALUMINIUM	60.XX.XX.XXX.1
I	–	1/2" NPT	DRAIN POT AS PER STD–5–0802–11	CARBON STEEL	60.XX.XX.XXX.X
J	–	1/2" NPT M	BLEEDER VALVE	AISI 316	60.XX.XX.XXX.X
K	–				
L	140m	2x2.5SQ.mm	CABLE XLPEI–SWA–PES: BLACK		XX.XX.XX.XXX.X
M	200m	3x2.5SQ.mm	CABLE XLPEI–SWA–PES: BLACK		68.44.14.303.1
N	–	21x2.5SQ.mm	CABLE XLPEI–SWA–PES: BLACK		68.44.14.953.9
O	780m	2x2x1.13mm	CABLE XLPEI–MS–SWA–PVCS: BLACK		XX.XX.XX.XXX.X
P	800m	10x2x0.8mm	CABLE XLPEI–MS–SWA–PVCS: GREEN		XX.XX.XX.XXX.X
Q	–	20x2x0.8mm	CABLE XLPEI–MS–SWA–PVCS: GREEN		XX.XX.XX.XXX.X
R	–	19 ~ 6mm	CABLE SHRINK ON SLEEVE (BLUE)	POLYOLEFIN	XX.XX.XX.XXX.X
S	–	38 ~ 19mm	CABLE SHRINK ON SLEEVE (BLUE)	POLYOLEFIN	XX.XX.XX.XXX.X
T	–	1x2x0.8mm	CABLE PEI–MS–SWA–PVC : BLACK	–	XX.XX.XX.XXX.X
T1	–	4x0.8mm	SPECIAL CABLE (BY VENDOR)	–	XX.XX.XX.XXX.X
T2	–	3x0.8mm	SPECIAL CABLE (BY VENDOR)	–	XX.XX.XX.XXX.X
T3	–	–	CABLE GLAND (BY VENDOR)	–	XX.XX.XX.XXX.X
U	–	2x2x0.8mm	CABLE PEI–MS–SWA–PVC : BLACK	–	XX.XX.XX.XXX.X
V	–	M20	JUNCTION BOX	MILD STEEL	68.76.27.XXX.9
W	–	50mm	PERFORATED CABLE TRAY	CARBON STEEL	68.76.54.XXX.1
X	25pcs	M20	LOCKNUT	BRASS	68.80.58.068.1
Y	10pcs	M25	LOCKNUT	BRASS	68.80.58.072.1
Z	–	M32	LOCKNUT	BRASS	68.80.58.076.1

AREA : NIMR

SCALE : – 0 1 2 3 4 5 6 7 CAD DRAWING

SUB AREA : NIMR SLUDGE PIT NO. 05

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG.TYPE : INSTR. IMPULSE LINES & ELECTRO PNEU. HOOK-UPS

DESCRIPTION : BULK MATERIAL SUMMARY

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	011	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

ITEM	QTY	SIZE	DESCRIPTION	MATERIAL	M.E.S.C.
AA	44pcs	M20	CABLE GLAND TYPE-O	BRASS	68.80.58.730.1
AB	10pcs	M25	CABLE GLAND TYPE-B	BRASS	68.80.58.734.1
AC	–	M32	CABLE GLAND TYPE-C	BRASS	68.80.58.736.1
AD	6pcs	1/2"NPTxM20	ADAPTER FOR CABLE GLAND	BRASS	68.80.58.802.9
AE	–	3/4"NPTxM20	ADAPTER FOR CABLE GLAND	BRASS	68.80.58.804.9
AF	–	M32xM25	REDUCER FOR CABLE GLAND	BRASS	68.80.58.820.9
AG	–	1/2"NPT	BLIND PLUG	BRASS	68.80.58.XXX.X
AH	–	3/4"NPT	BLIND PLUG	BRASS	68.80.58.XXX.X
AI	–	M20	BLIND PLUG	BRASS	68.80.58.XXX.X
AJ	–	M20	INSULATED ADAPTOR	BRASS	68.80.58.XXX.X
AK	–	3/8"NPT	SOLENOID VALVE 3 WAY Ex(d)	AISI 316	68.98.58.XXX.9
AL	–	M20	CABLE GLAND TYPE-A	BRASS	68.80.58.732.1
AM	–				
AN	–	1/2"	LINE PIPE SCHEDULE-40	GALV.ST.	74.13.08.016.1
AO	–	1"	LINE PIPE SCHEDULE-40	GALV.ST.	74.13.08.026.1
AP	19.6m	2"	LINE PIPE SCHEDULE-40	CARBON STEEL	74.13.10.069.1
AQ	2pcs	3"	LINE PIPE SCHEDULE-40	CARBON STEEL	74.13.10.103.1
AR	–	2"	LINE PIPE SCHEDULE-80	CARBON STEEL	74.13.12.071.1
AS	–	1/4"NPT	BALL VALVE SCREWED-800#	CARBON STEEL	77.01.00.001.1
AT	–	1/2"NPT	BALL VALVE SCREWED-800#	CARBON STEEL	77.01.00.003.1
AU	–	1/2"NPT	GATE VALVE SCREWED-800#	CARBON STEEL	77.21.01.003.1
AV	–				
AW	–	1"x1/2"NPT	BUSHING SCREWED-3000#	GALV.ST.	76.06.14.162.1
AX	–				
AY	–	1/2"NPT	ELBOW 90 DEG. SCREWED-3000#	GALV.ST.	76.06.39.008.1
AZ	–	1"NPT	ELBOW 90 DEG. SCREWED-3000#	GALV.ST.	76.06.39.016.1

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INSTR. IMPULSE LINES & ELECTRO PNEU. HOOK-UPS

DESCRIPTION : BULK MATERIAL SUMMARY

SCALE : – 0 1 2 3 4 5 6 7 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	012	DQ	4	A


WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

ITEM	QTY	SIZE	DESCRIPTION	MATERIAL	M.E.S.C.
BA	–	1/4"NPTx40mm	NIPPLE SCREWED SCHED 40	GALV.ST.	76.06.56.041.1
BB	–	1/2"NPTx50mm	NIPPLE SCREWED SCHED 80	GALV.ST.	76.06.56.092.1
BC	–	1"NPTx50mm	NIPPLE SCREWED SCHED 80	GALV.ST.	76.06.56.172.1
BD	–				
BE	–	1/2"NPT	PLUG SCREWED 3000#	GALV.ST.	76.06.66.008.1
BF	–	1"NPT	PLUG SCREWED 3000#	GALV.ST.	76.06.66.016.1
BG	–	1/2"NPTx1/4"NPT	RED.COUPLING 3000#	GALV.ST.	76.06.70.081.1
BH	–				
BI	–	1/2"NPT	TEE SCREWED 3000#	GALV.ST.	76.06.84.008.1
BJ	–	1"NPT	TEE SCREWED 3000#	GALV.ST.	76.06.84.016.1
BK	–				
BL	–				
BM	–	1/2"NPT	UNION SCREWED 3000#	GALV.ST.	76.06.91.008.1
BN	–	1"NPT	UNION SCREWED 3000#	GALV.ST.	76.06.91.016.1
BO	–				
BP	9pcs	2"	CAP BUTT WELDING SCHEDULE 80	CARBON STEEL	76.30.18.608.1
BQ	2pcs	3"x2"	REDUCER CON.BUTT WELDING TYPE	CARBON STEEL	76.30.72.235.1
BR	–				
BS	–				
BT	–				
BU	–				
BV	–				
BW	–	3/8"NPTx1/4"OD	MALE CONNECTOR COMPR.TYPE	AISI 316	76.39.27.045.9
BX	–	1/2"NPTx1/4"OD	MALE CONNECTOR COMPR.TYPE	AISI 316	76.39.27.047.9
BY	–	3/8"ODx3/8"NPT	MALE CONNECTOR COMPR.TYPE	AISI 316	76.39.27.063.9
BZ	–	1/4"NPTx1/4"OD	FEMALE CONNECTOR COMPR.TYPE	AISI 316	76.39.27.243.1

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INSTR. IMPULSE LINES & ELECTRO PNEU. HOOK-UPS

DESCRIPTION : BULK MATERIAL SUMMARY

SCALE : – 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	013	DQ	4	A



WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

ITEM	QTY	SIZE	DESCRIPTION	MATERIAL	M.E.S.C.
CA	–	1/4"NPTx3/8"OD	FEMALE CONNECTOR COMPR.TYPE	AISI 316	76.39.27.261.1
CB	–	1/2"NPTx3/8"OD	FEMALE CONNECTOR COMPR.TYPE	AISI 316	76.39.27.265.1
CC	2pcs	1/2"NPTx1/2"OD	MALE CONNECTOR COMPR.TYPE	AISI 316	76.39.27.XXX.X
CD	–	3/8"OD	INSULATING UNION COMPR.TYPE	AISI 316	76.39.91.108.9
CE	–				
CF	18pcs	1/4"NPT	PLUG SCREWED	AISI 316	76.39.67.040.1
CG	–	1/4"NPT	FUSIBLE PLUG	–	–
CH	–	1/2"NPT(F)	NEEDLE VALVE	AISI 316	77.34.XX.XXX.X
CI	–	5mm THICK	ALUMINIUM PLATE	ALUMINIUM	78.01.30.162.1
CJ	6.19m	50x6mm THICK	FLAT BAR	MILD STEEL	78.39.02.121.1
CK	–	10mm THICK	STEEL PLATE (500x50x10mm)	MILD STEEL	
CL	0.455Sq.m	3mm THICK	STEEL PLATE	MILD STEEL	78.43.30.108.1
CM	0.245Sq.m	6mm THICK	STEEL PLATE	MILD STEEL	78.43.30.116.1
CN	0.64Sq.m	10mm THICK	STEEL PLATE (50x50x10mm)	MILD STEEL	78.43.30.124.1
CO	–	75x40x6x8mm	U-CHANNEL	MILD STEEL	78.47.31.XXX.1
CP	–	35x35x4mm	ANGLE IRON	MILD STEEL	78.47.01.336.1
CQ	4.14m	50x50x6mm	ANGLE IRON	MILD STEEL	78.47.01.352.1
CR	4m	1/2"OD	TUBING WALL THICKNESS 0.048"	AISI 316	74.48.50.073.9
CS	–				
CT	–				
CU	–	1/4"OD	TUBING WALL THICKNESS 0.036"	AISI 316	74.48.50.033.1
CV	–	M6x30 MM	BOLT HEXAGONAL HEAD	CARBON STEEL	81.01.77.116.1
CW	–	M8x40 MM	BOLT HEXAGONAL HEAD	CARBON STEEL	81.01.77.153.1
CX	–	M10x40 MM	BOLT HEXAGONAL HEAD	CARBON STEEL	81.01.77.188.1
CY	4pcs	M10x60 MM	BOLT HEXAGONAL HEAD	CARBON STEEL	81.01.77.192.1
CZ	–	M12x60 MM	BOLT HEXAGONAL HEAD	CARBON STEEL	81.01.77.232.1

AREA : NIMR

SCALE : – CAD DRAWING 0 1 2 3 4 5 6 7

SUB AREA : NIMR SLUDGE PIT NO. 05

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG.TYPE : INSTR. IMPULSE LINES & ELECTRO PNEU. HOOK-UPS

DESCRIPTION : BULK MATERIAL SUMMARY

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	014	DQ	4	A


WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

ITEM	QTY	SIZE	DESCRIPTION	MATERIAL	M.E.S.C.
DA	16pcs	M12x110mm	FOUNDATION BOLT WITH NUT & WASHER	CARBON STEEL	81.26.25.133.1
DB	–	M6x60mm	'J'BOLT HOOK C/W NUT & WASHER	CARBON STEEL	81.26.33.124.1
DC	–				
DD	–	3/8"	'U'BOLT C/W 4HEX.NUTS	CARBON STEEL	81.26.86.040.9
DE	–				
DF	–	M6	NUT HEXAGONAL HEAD	CARBON STEEL	81.41.77.014.1
DG	–	M8	NUT HEXAGONAL HEAD	CARBON STEEL	81.41.77.016.1
DH	4pcs	M10	NUT HEXAGONAL HEAD	CARBON STEEL	81.41.77.018.1
DI	–	M12	NUT HEXAGONAL HEAD	CARBON STEEL	81.41.77.020.1
DJ	–				
DK	–	M6x12.5DIAx1.6	FLAT WASHER ROUND	MILD STEEL	81.78.50.714.1
DL	–	M8x17DIAx1.6	FLAT WASHER ROUND	MILD STEEL	81.78.50.716.1
DM	–	M10x21DIAx2	FLAT WASHER ROUND	MILD STEEL	81.78.50.718.1
DN	–	M12x24DIAx2.5	FLAT WASHER ROUND	MILD STEEL	81.78.50.720.1
DO	–				
DP	–	1/4"	METERING VALVE	AISI 316.	HOKE 1335 G4Y
DQ	–	1/4"	NEEDLE VALVE	AISI 316.	HOKE 3712 G4Y
DR	–	1/4"NPT	BALL VALVE	AISI 316.	HOKE 7115 F4Y
DS	–	m25	U-BOLTS C/W HEX. NUTS AND WASHERS	AISI 316.	
DT	–	m50	U-BOLTS C/W HEX. NUTS AND WASHERS	AISI 316.	
DU	13pcs	M8	U-BOLT FOR 1/2" PIPE C/W NUTS & SPRING WASHER	AISI 316.	81.26.86.022.9
DV	34pcs	M10	U-BOLT FOR 2" PIPE C/W NUTS & SPRING WASHER	AISI 316.	81.26.86.040.9
DW	–	1/2"NPT	GAUGE ADAPTOR – MALE TO FEMALE	AISI 316.	76.09.02.102.9
DX	–	1/2"NPT	GAUGE ADAPTOR – MALE TO MALE	AISI 316.	76.09.02.112.9
DY	–	1-1/16"	BULKHEAD RETAINER	AISI 316.	76.39.95.102.9
DZ	–				

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INSTR. IMPULSE LINES & ELECTRO PNEU. HOOK-UPS

DESCRIPTION : BULK MATERIAL SUMMARY

SCALE : – 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	015	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

ITEM	QTY	SIZE	DESCRIPTION	MATERIAL	M.E.S.C.
EA	–	4x140mm	CABLE TIES 12/BLACK	NYLON	68.80.50.942.9
EB	–	–	CARRIER STRIP BLACK 7 DIGITS	PVC	68.79.02.004.9
EC	–	65	CABLE MARKER TYPE KS	NYLON	68.79.02.826.9
ED	–	250x19x1.6mm	PLAIN STRIP	LEAD	68.79.02.018.1
EE	–	D=1.5 – 2.0mm	CORE MARKER MODEL ZS–5		68.79.02.802.9
EF	–	D=2.0 – 3.2mm	CORE MARKER MODEL ZS–7		68.79.02.803.9
EG	–	D=2.5 – 4.0mm	CORE MARKER MODEL ZS–9		68.79.02.804.9
EH	–	ID=2mm	SLEEVING, GREEN	PVC	68.85.10.504.1
EI	–	8x375mm	CABLE TIES 12/BLACK	NYLON	68.80.50.944.9
EJ	–	8x240mm	CABLE TIES 12/BLACK	NYLON	68.80.50.946.9
EK	100m	100mm WIDE	CABLE CHANNEL	GALV.	68.76.54.824.9
EL	–	150mm WIDE	CABLE CHANNEL		68.76.54.826.9
EM	–	200mm WIDE	CABLE CHANNEL (NOTE–2)		68.76.54.828.9
EN	–	300mm WIDE	CABLE CHANNEL (NOTE–2)		68.76.54.832.9
EO	50pcs	100mm WIDE	CABLE CHANNEL BEND (90° FLAT)		68.76.54.052.9
EP	–	150mm WIDE	CABLE CHANNEL BEND (90° FLAT)		68.76.54.054.9
EQ	–	200mm WIDE	CABLE CHANNEL BEND (90° FLAT)		68.76.54.056.9
ER	–	300mm WIDE	CABLE CHANNEL BEND (90° FLAT)		68.76.54.058.9
ES	200pcs	1000x244x6mm	CABLE TILE		68.76.81.024.9
ET	–	–	TYPE–A NAME PLATE	PLASTIC	68.76.81.XXX.X
EU	–				
EV					
EW					
EX					
EY					
EZ					
KJ	100pcs	1/4"x40mm	BOLTS & NUTS	GALV.	XX.XX.XX.XXX.X
XX	15pcs	2" (M50)	EYE BOLT	CS	XX.XX.XX.XXX.X
–	50m	–	ANTENNA CABLE (BY VENDOR)	–	XX.XX.XX.XXX.X

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INST. IMPULSE LINES/ELECTRO PNEU. HOOK–UPS

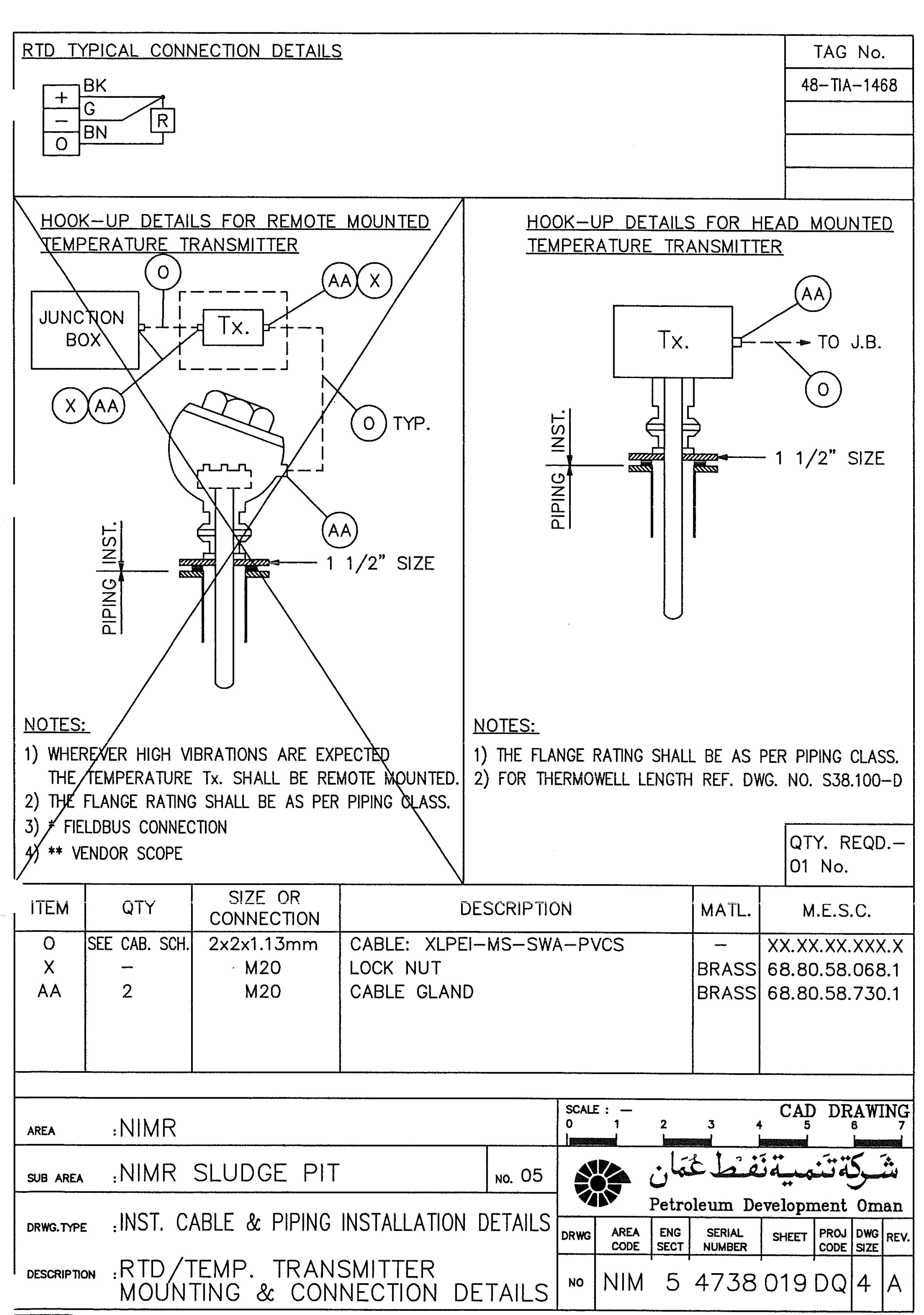
DESCRIPTION : BULK MATERIAL SUMMARY

SCALE : – CAD DRAWING
0 1 2 3 4 5 6 7

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	016	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



ITEM	QTY	SIZE OR CONNECTION	DESCRIPTION	MATL.	M.E.S.C.
O	SEE CAB. SCH.	2x2x1.13mm	CABLE: XLPEI−MS−SWA−PVCS	−	XX.XX.XX.XXX.X
X	−	M20	LOCK NUT	BRASS	68.80.58.068.1
AA	2	M20	CABLE GLAND	BRASS	68.80.58.730.1

AREA :NIMR

SUB AREA :NIMR SLUDGE PIT — NO. 05

DRWG.TYPE :INST. CABLE & PIPING INSTALLATION DETAILS

DESCRIPTION :RTD/TEMP. TRANSMITTER MOUNTING & CONNECTION DETAILS

SCALE : — 0 1 2 3 4 5 6 7 — CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	019	DQ	4	A

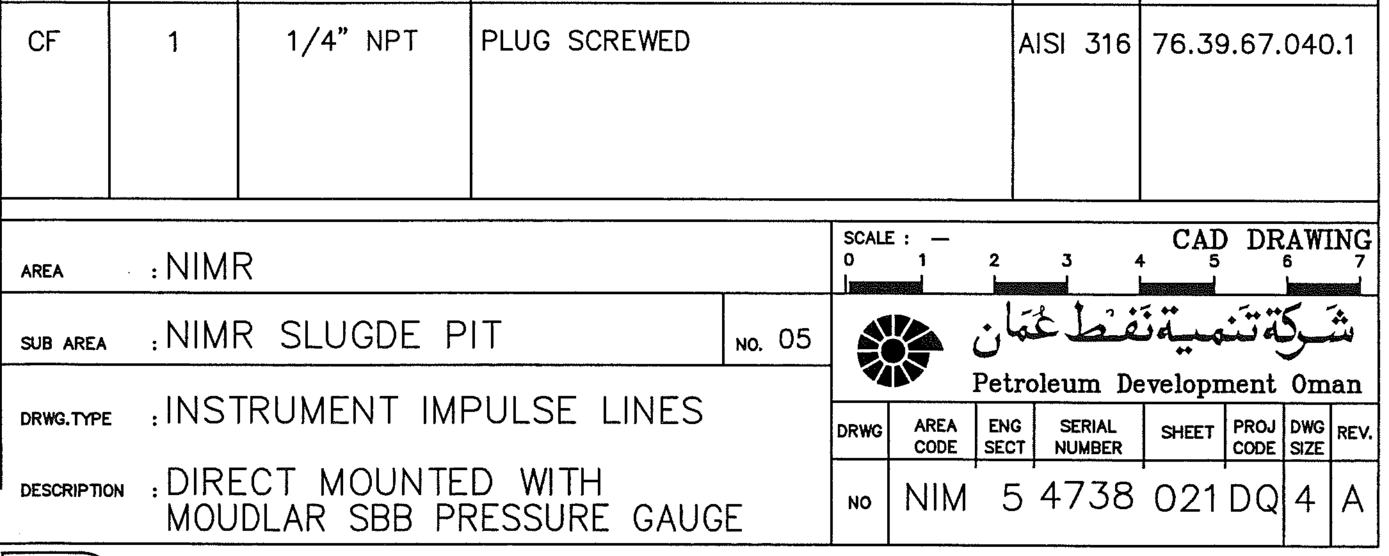
WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

NOTE-3
INST.
MECH. (NOTE-2)
NOTE-1
NEEDLE VALVE
BALL VALVE
CF
INST.
MECH.

TAG NO.
48-PG-1530
48-PG-1531
48-PG-1532
48-PG-1533
48-PG-1538
48-PG-1539
48-PG-1540
48-PG-1541
48-PG-1542
48-PG-1545

QTY. REQD.- 10 Nos.

1) 2" 300# RF SBB VALVE TO BE PROVIDED BY MECHANICAL.
2) ALL GASKET, NUT-STUD SHALL BE PROVIDED BY MECHANICAL.
3) 1/2" NPT (F) CONNECTION WITH FLANGE SHALL BE PROVIDED BY MECHANICAL.



ITEM	QTY	SIZE OR CONNECTION	DESCRIPTION	MATL.	M.E.S.C.
CF	1	1/4" NPT	PLUG SCREWED	AISI 316	76.39.67.040.1

AREA : NIMR

SUB AREA : NIMR SLUGDE PIT — NO. 05

DRWG.TYPE : INSTRUMENT IMPULSE LINES

DESCRIPTION : DIRECT MOUNTED WITH MOUDLAR SBB PRESSURE GAUGE

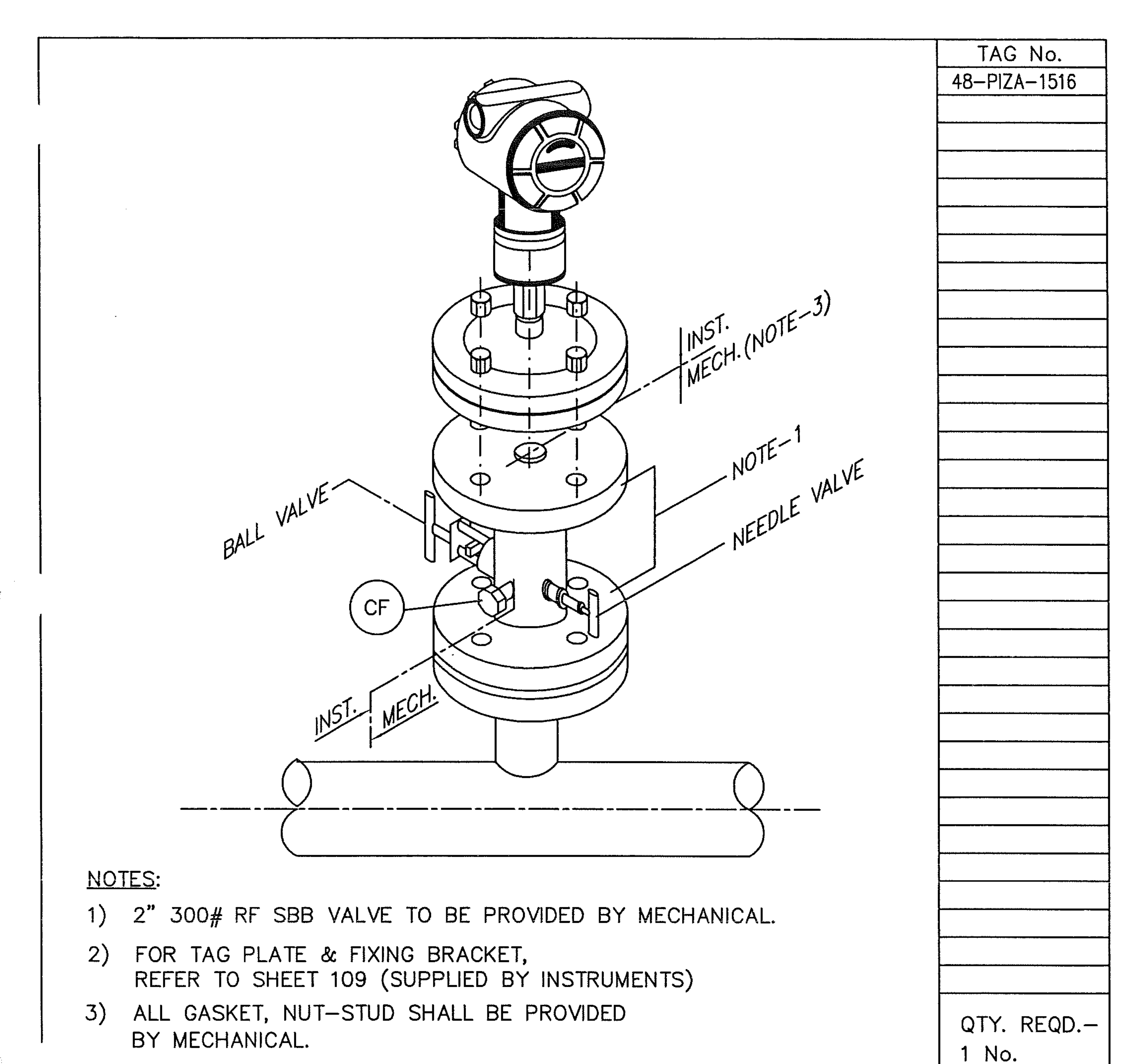
SCALE : —
0 1 2 3 4 5 6 7

CAD DRAWING

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	021	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



TAG No.
48-PIZA-1516
QTY. REQD.- 1 No.

NOTES:

1) 2" 300# RF SBB VALVE TO BE PROVIDED BY MECHANICAL.
2) FOR TAG PLATE & FIXING BRACKET, REFER TO SHEET 109 (SUPPLIED BY INSTRUMENTS)
3) ALL GASKET, NUT-STUD SHALL BE PROVIDED BY MECHANICAL.

ITEM	QTY	SIZE OR CONNECTION	DESCRIPTION	MATL.	M.E.S.C.
~~420~~	~~3M~~	~~—~~	~~CAPILLARY TUBE (BY VENDOR)~~	~~SS~~	~~XX.XX.XX.XXX.X~~
CF	1	1/4" NPT	PLUG SCREWED	AISI 316	76.39.67.040.1

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INST. IMPULSE LINES/ELECTRO PNEU. HOOK-UPS

DESCRIPTION : REMOTE SEAL DIAPHRAGM TYPE PRESSURE INSTRUMENT

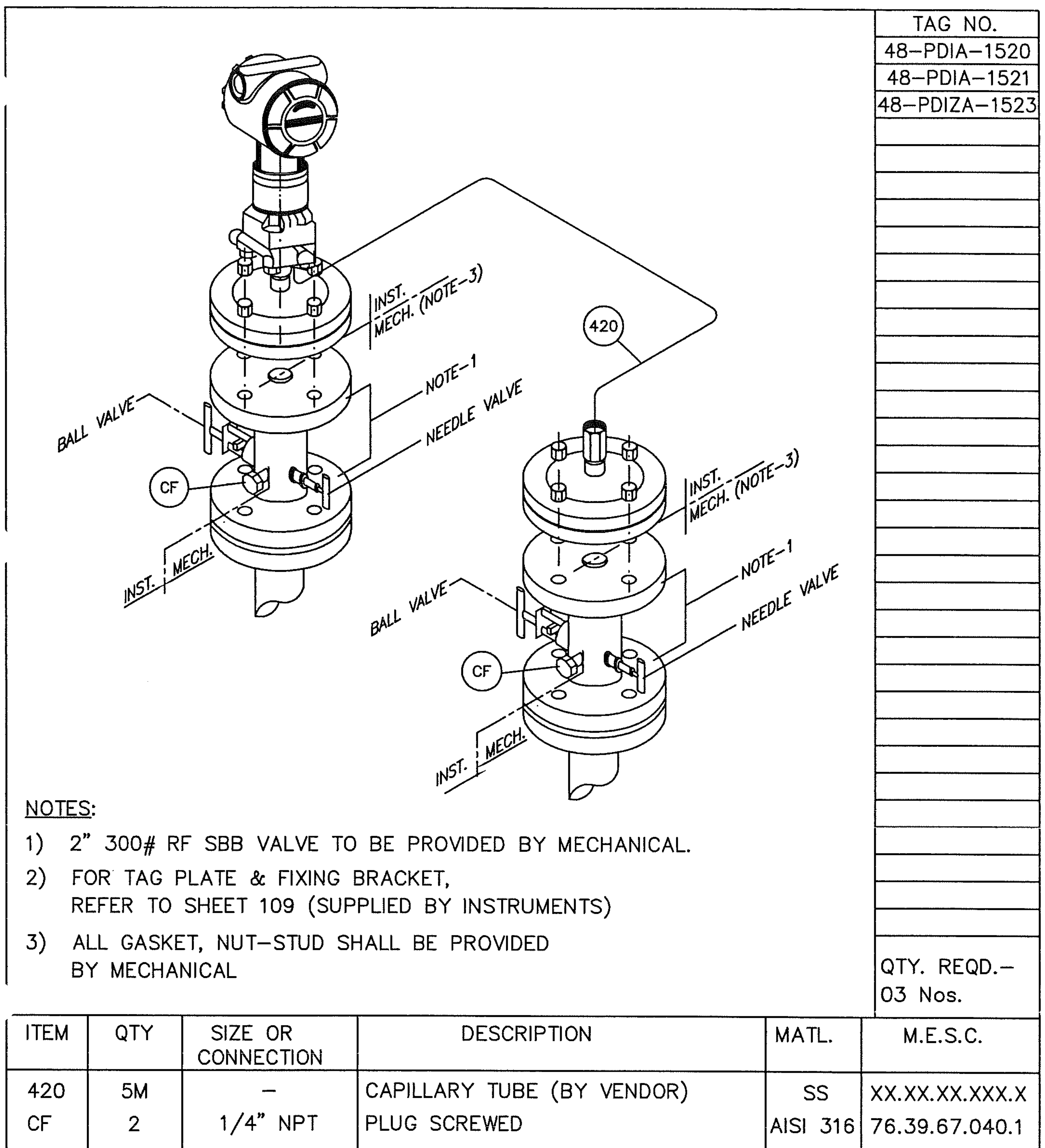
SCALE : — 0 1 2 3 4 5 6 7

CAD DRAWING

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DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	022	DQ	A 4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



TAG NO.
48-PDIA-1520
48-PDIA-1521
48-PDIZA-1523

QTY. REQD.-
03 Nos.

NOTES:

1) 2" 300# RF SBB VALVE TO BE PROVIDED BY MECHANICAL.
2) FOR TAG PLATE & FIXING BRACKET,
   REFER TO SHEET 109 (SUPPLIED BY INSTRUMENTS)
3) ALL GASKET, NUT-STUD SHALL BE PROVIDED
   BY MECHANICAL

ITEM	QTY	SIZE OR CONNECTION	DESCRIPTION	MATL.	M.E.S.C.
420	5M	–	CAPILLARY TUBE (BY VENDOR)	SS	XX.XX.XX.XXX.X
CF	2	1/4" NPT	PLUG SCREWED	AISI 316	76.39.67.040.1

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INSTRUMENT IMPULSE LINES

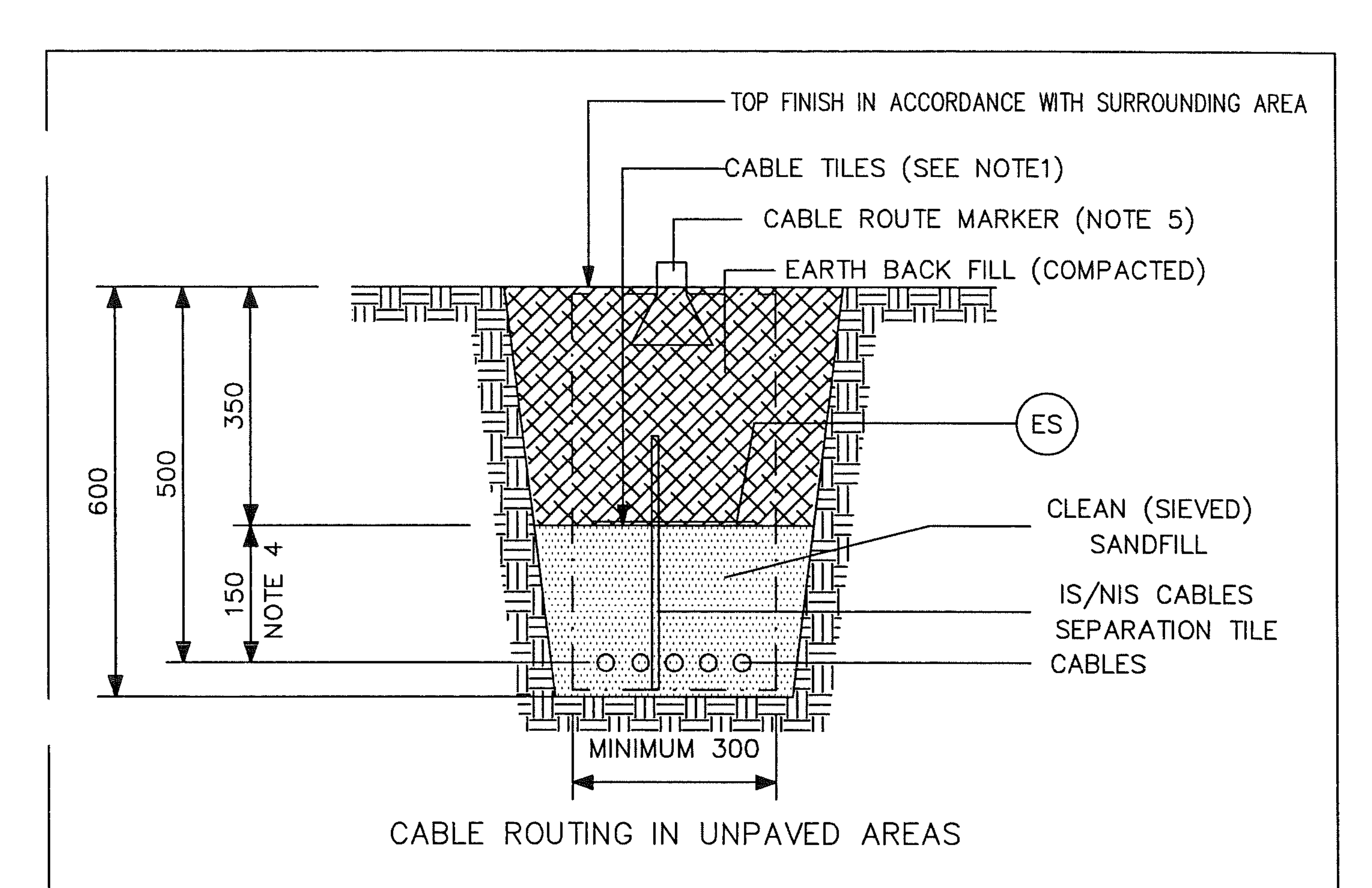
DESCRIPTION : REMOTE SEAL DIAPHRAGM TYPE
DIFF. PRESSURE INSTRUMENT

SCALE : – CAD DRAWING
0 1 2 3 4 5 6 7

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DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	023	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



CABLE ROUTING IN UNPAVED AREAS

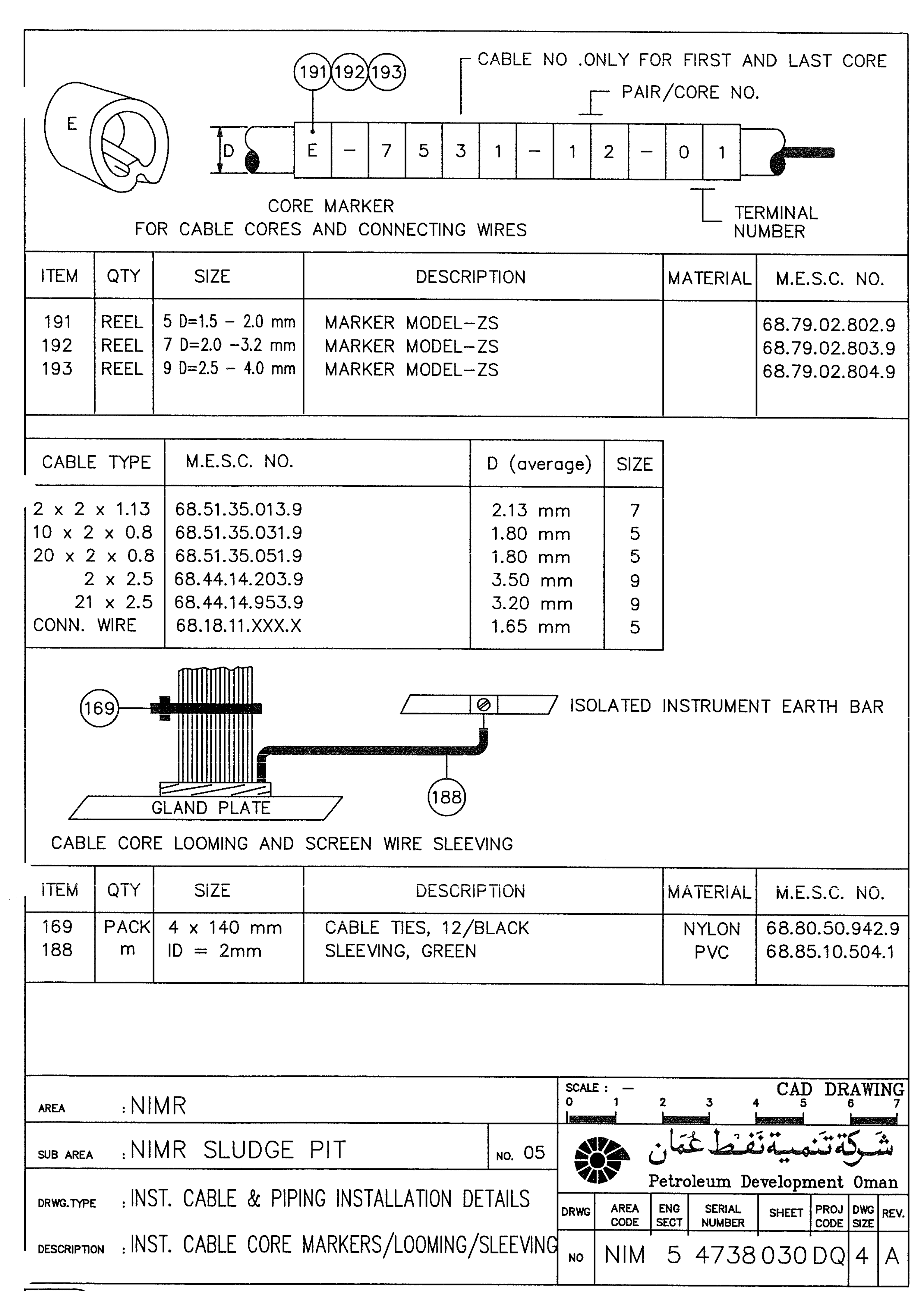
ITEM	QTY.	SIZE	DESCRIPTION	MATERIAL	M.E.S.C. NO.
ES	200 PCE	1000x244x6mm	CABLE TILE	–	68.76.81.024.9

NOTES

1. RECYCLED POLYETHYLENE CABLE TILE. BLACK ON ONE SIDE , OTHER SIDE RED WITH 150mm GREEN TAPE WITH PRINTING "CAUTION INSTRUMENT CABLE BELOW". DRILLED WITH 2No. 15mm DIA HOLES SUPPLIED WITH 2 PCS JOINTING PEGS PER TILE.
2. SEPARATE I.S. AND N.I.S. CABLES IN CABLE TRENCHES. USING CABLE TILE ON EDGE AS PARTITION.
3. CABLE TRENCHING IN PAVED AREAS: FOR CABLE TRENCHING IN CONCRETE, BRICK PAVED OR TILED AREAS AND FOR ROAD CROSSING DETAILS SEE STANDARD DRAWINGS S 19.001 AND S 19.002.
4. 250mm IN CASE OF IS/NIS CABLE SEPARATION WITH CABLE TILE.
5. REFER STD-5-0801-019

AREA	:NIMR	SCALE : 0 1 2 3 4 5 6 7	CAD DRAWING
SUB AREA	:NIMR SLUDGE PIT	NO. 05	شركة تنمية نفط عمان Petroleum Development Oman
DRWG.TYPE	: INST. IMPULSE LINES/ELECTRO PNEU. HOOK-UPS		
DESCRIPTION	: INST. CABLE TRENCHING DETAILS		

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	029	DQ	4	A



ITEM	QTY	SIZE	DESCRIPTION	MATERIAL	M.E.S.C. NO.
191	REEL	5 D=1.5 – 2.0 mm	MARKER MODEL–ZS		68.79.02.802.9
192	REEL	7 D=2.0 –3.2 mm	MARKER MODEL–ZS		68.79.02.803.9
193	REEL	9 D=2.5 – 4.0 mm	MARKER MODEL–ZS		68.79.02.804.9

CABLE TYPE	M.E.S.C. NO.	D (average)	SIZE
2 x 2 x 1.13	68.51.35.013.9	2.13 mm	7
10 x 2 x 0.8	68.51.35.031.9	1.80 mm	5
20 x 2 x 0.8	68.51.35.051.9	1.80 mm	5
2 x 2.5	68.44.14.203.9	3.50 mm	9
21 x 2.5	68.44.14.953.9	3.20 mm	9
CONN. WIRE	68.18.11.XXX.X	1.65 mm	5

ITEM	QTY	SIZE	DESCRIPTION	MATERIAL	M.E.S.C. NO.
169	PACK	4 x 140 mm	CABLE TIES, 12/BLACK	NYLON	68.80.50.942.9
188	m	ID = 2mm	SLEEVING, GREEN	PVC	68.85.10.504.1

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT NO. 05

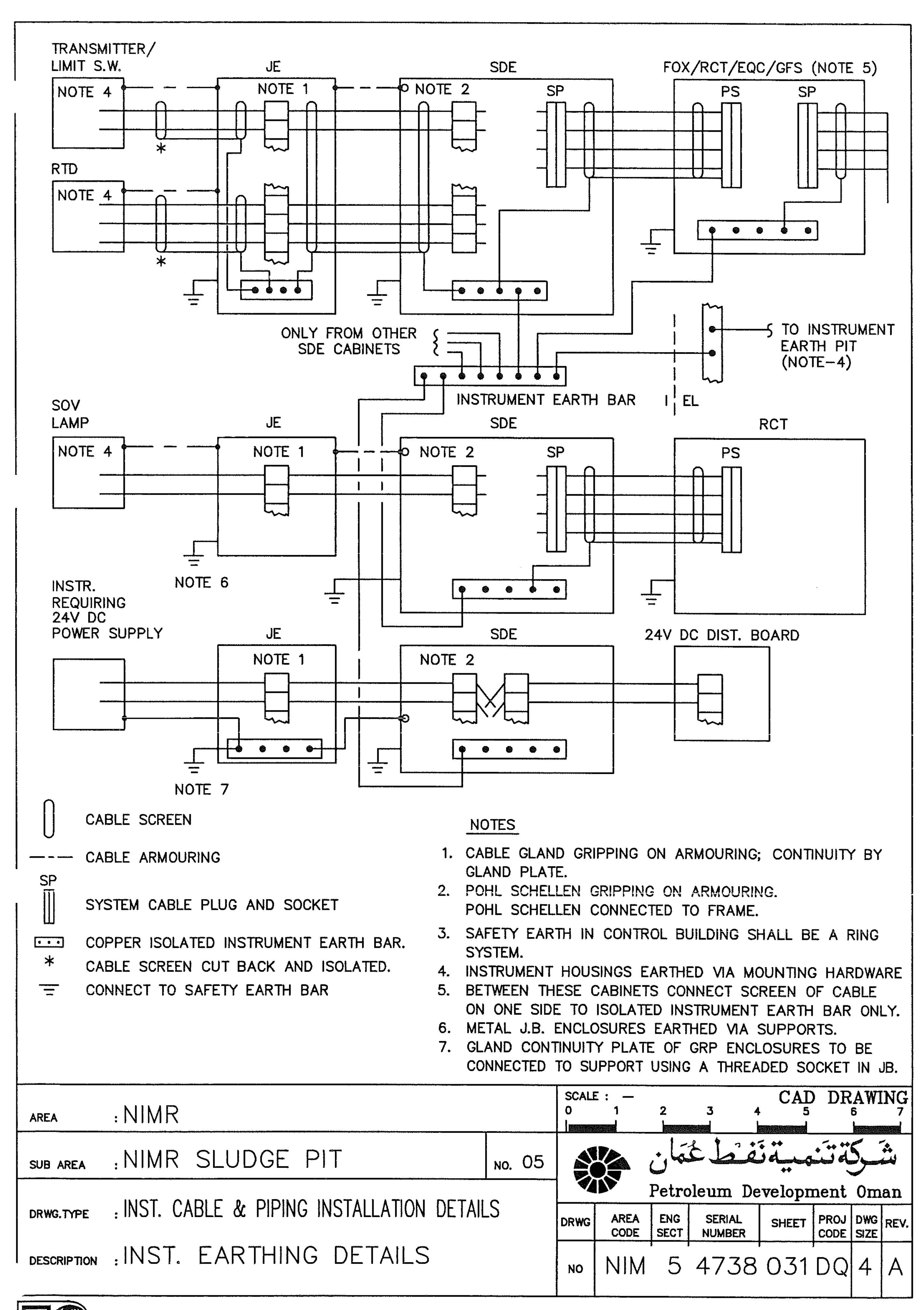
DRWG.TYPE : INST. CABLE & PIPING INSTALLATION DETAILS

DESCRIPTION : INST. CABLE CORE MARKERS/LOOMING/SLEEVING

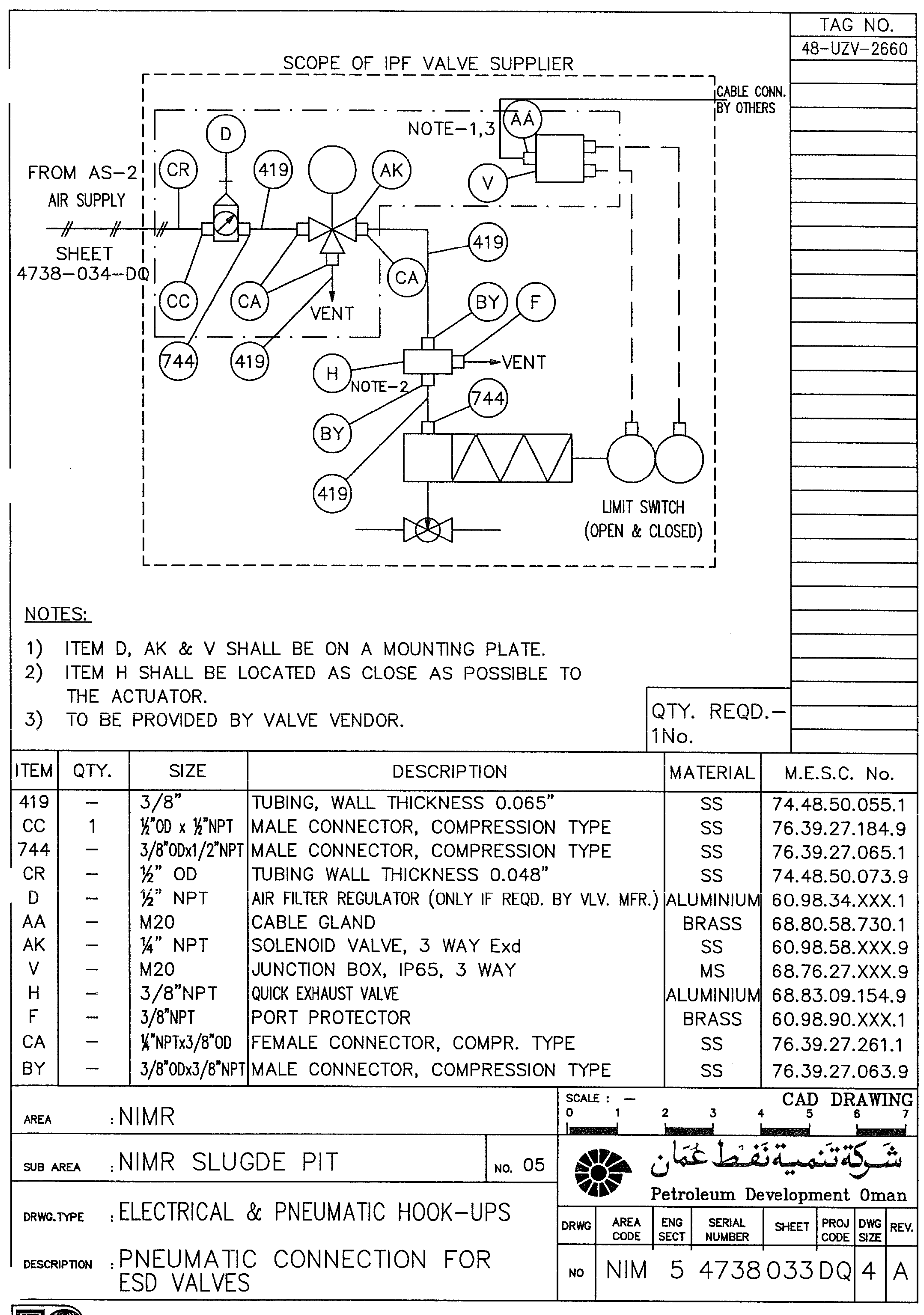
SCALE : —
0 1 2 3 4 5 6 7
CAD DRAWING

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DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	030	DQ	4	A



WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



NOTES:

1) ITEM D, AK & V SHALL BE ON A MOUNTING PLATE.
2) ITEM H SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE ACTUATOR.
3) TO BE PROVIDED BY VALVE VENDOR.

QTY. REQD.-1No.

ITEM	QTY.	SIZE	DESCRIPTION	MATERIAL	M.E.S.C. No.
419	–	3/8"	TUBING, WALL THICKNESS 0.065"	SS	74.48.50.055.1
CC	1	½"OD x ½"NPT	MALE CONNECTOR, COMPRESSION TYPE	SS	76.39.27.184.9
744	–	3/8"ODx1/2"NPT	MALE CONNECTOR, COMPRESSION TYPE	SS	76.39.27.065.1
CR	–	½" OD	TUBING WALL THICKNESS 0.048"	SS	74.48.50.073.9
D	–	½" NPT	AIR FILTER REGULATOR (ONLY IF REQD. BY VLV. MFR.)	ALUMINIUM	60.98.34.XXX.1
AA	–	M20	CABLE GLAND	BRASS	68.80.58.730.1
AK	–	¼" NPT	SOLENOID VALVE, 3 WAY Exd	SS	60.98.58.XXX.9
V	–	M20	JUNCTION BOX, IP65, 3 WAY	MS	68.76.27.XXX.9
H	–	3/8"NPT	QUICK EXHAUST VALVE	ALUMINIUM	68.83.09.154.9
F	–	3/8"NPT	PORT PROTECTOR	BRASS	60.98.90.XXX.1
CA	–	¼"NPTx3/8"OD	FEMALE CONNECTOR, COMPR. TYPE	SS	76.39.27.261.1
BY	–	3/8"ODx3/8"NPT	MALE CONNECTOR, COMPRESSION TYPE	SS	76.39.27.063.9

AREA : NIMR

SUB AREA : NIMR SLUGDE PIT — NO. 05

DRWG.TYPE : ELECTRICAL & PNEUMATIC HOOK-UPS

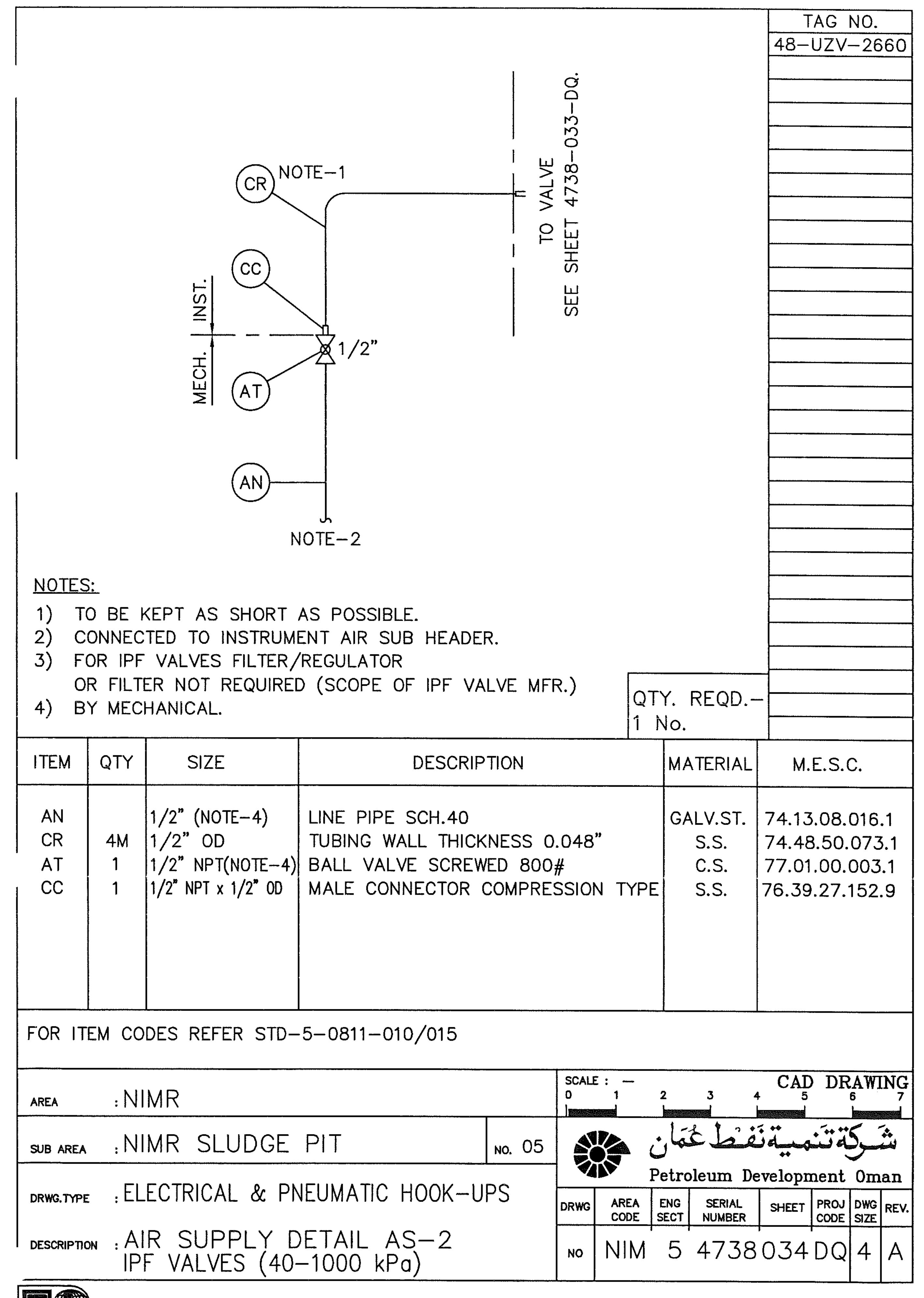
DESCRIPTION : PNEUMATIC CONNECTION FOR ESD VALVES

SCALE : – CAD DRAWING
0 1 2 3 4 5 6 7

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DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	033	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



NOTES:

1) TO BE KEPT AS SHORT AS POSSIBLE.
2) CONNECTED TO INSTRUMENT AIR SUB HEADER.
3) FOR IPF VALVES FILTER/REGULATOR OR FILTER NOT REQUIRED (SCOPE OF IPF VALVE MFR.)
4) BY MECHANICAL.

QTY. REQD.- 1 No.

ITEM	QTY	SIZE	DESCRIPTION	MATERIAL	M.E.S.C.
AN		1/2" (NOTE-4)	LINE PIPE SCH.40	GALV.ST.	74.13.08.016.1
CR	4M	1/2" OD	TUBING WALL THICKNESS 0.048"	S.S.	74.48.50.073.1
AT	1	1/2" NPT(NOTE-4)	BALL VALVE SCREWED 800#	C.S.	77.01.00.003.1
CC	1	1/2" NPT x 1/2" OD	MALE CONNECTOR COMPRESSION TYPE	S.S.	76.39.27.152.9

FOR ITEM CODES REFER STD-5-0811-010/015

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : ELECTRICAL & PNEUMATIC HOOK-UPS

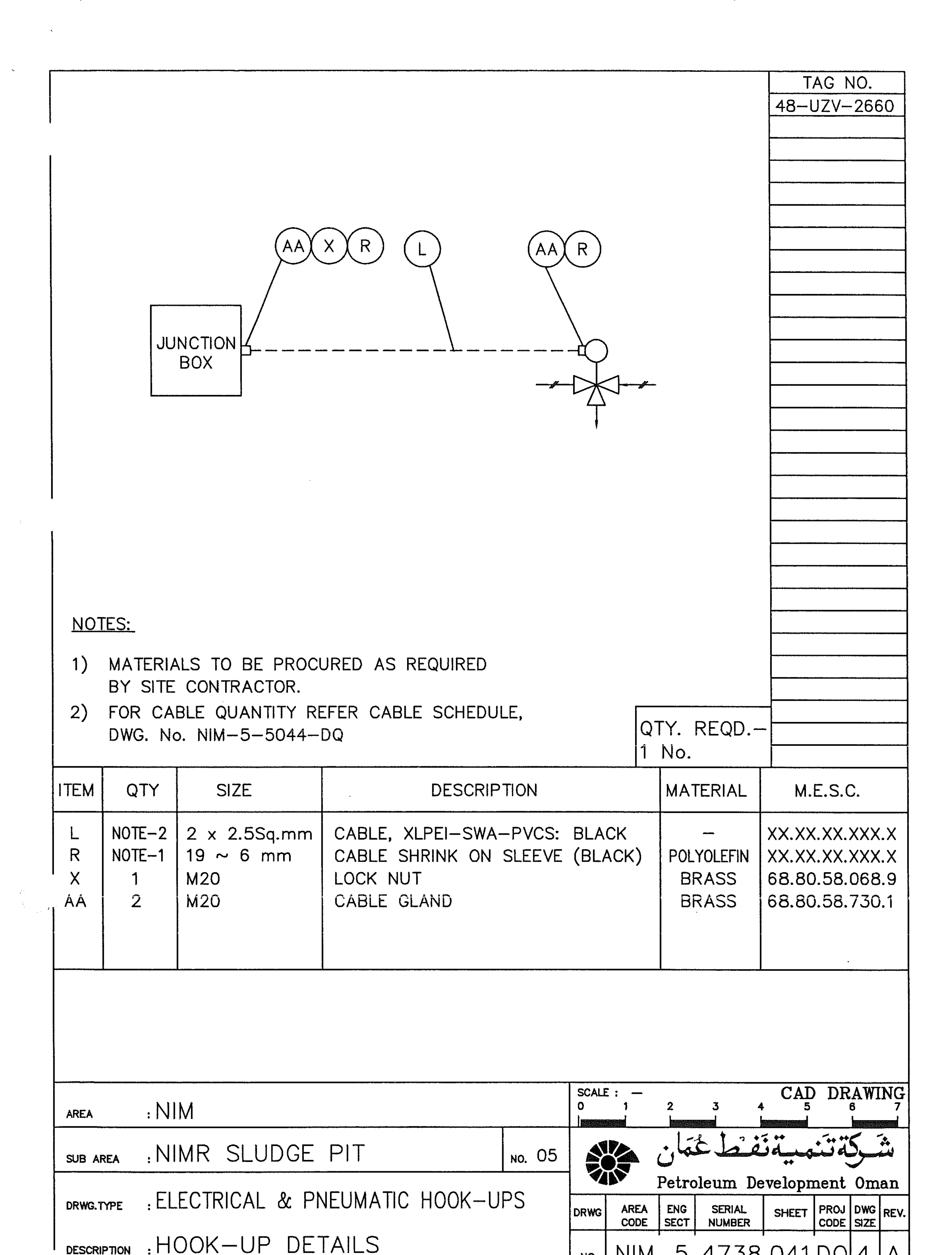
DESCRIPTION : AIR SUPPLY DETAIL AS-2
IPF VALVES (40-1000 kPa)

SCALE : —
0 1 2 3 4 5 6 7

CAD DRAWING

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DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	034	DQ	4	A



NOTES:

1) MATERIALS TO BE PROCURED AS REQUIRED BY SITE CONTRACTOR.
2) FOR CABLE QUANTITY REFER CABLE SCHEDULE, DWG. No. NIM-5-5044-DQ

QTY. REQD.- 1 No.

ITEM	QTY	SIZE	DESCRIPTION	MATERIAL	M.E.S.C.
L	NOTE-2	2 x 2.5Sq.mm	CABLE, XLPEI-SWA-PVCS: BLACK	-	XX.XX.XX.XXX.X
R	NOTE-1	19 ~ 6 mm	CABLE SHRINK ON SLEEVE (BLACK)	POLYOLEFIN	XX.XX.XX.XXX.X
X	1	M20	LOCK NUT	BRASS	68.80.58.068.9
AA	2	M20	CABLE GLAND	BRASS	68.80.58.730.1

AREA : NIM

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : ELECTRICAL & PNEUMATIC HOOK-UPS

DESCRIPTION : HOOK-UP DETAILS SOLENOID VALVE

SCALE : — CAD DRAWING
0 1 2 3 4 5 6 7

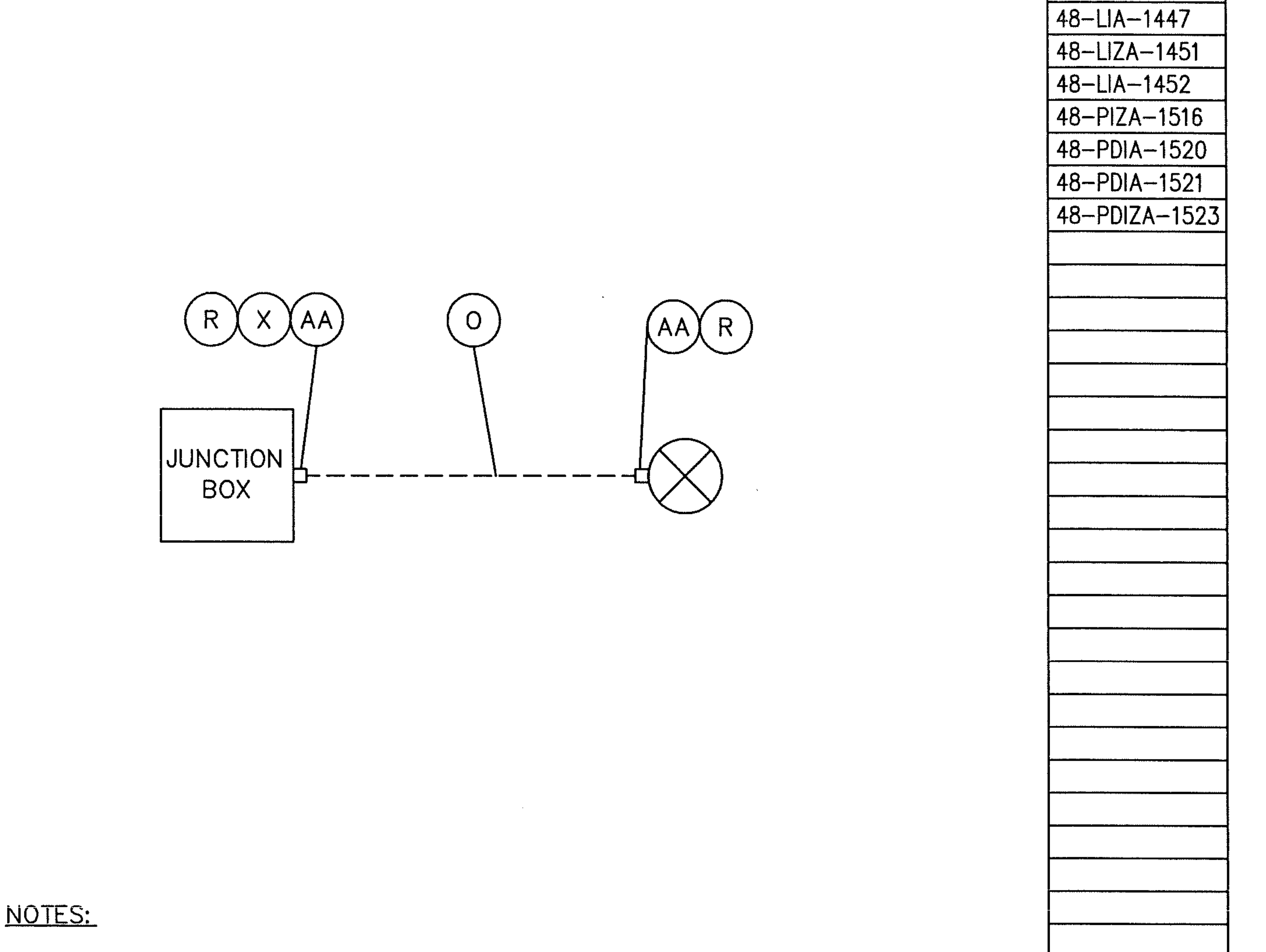
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DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	041	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

TAG NO.
48-LIZA-1448
48-LIA-1447
48-LIZA-1451
48-LIA-1452
48-PIZA-1516
48-PDIA-1520
48-PDIA-1521
48-PDIZA-1523

QTY. REQD.: 8 Nos.



NOTES:

1) MATERIALS TO BE PROCURED AS REQUIRED BY SITE CONTRACTOR.
2) FOR CABLE QUANTITY REFER CABLE SCHEDULE, DWG. No. NIM-5-5044-DQ

ITEM	QTY	SIZE OR CONNECTION	DESCRIPTION	MATERIAL	M.E.S.C.
O	NOTE-2	2 x 2 x 1.13mm	CABLE, XLPEI-MS-SWA-PVCS: BLACK	–	XX.XX.XX.XXX.X
R	NOTE-1	19 ~ 6 mm	CABLE SHRINK ON SLEEVE (BLACK)	POLYOLEFIN	XX.XX.XX.XXX.X
X	1	M20	LOCK NUT	BRASS	68.80.58.068.9
AA	2	M20	CABLE GLAND	BRASS	68.80.58.730.1

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : ELECTRICAL & PNEUMATIC HOOK-UPS

DESCRIPTION : HOOK-UP DETAILS TRANSMITTERS

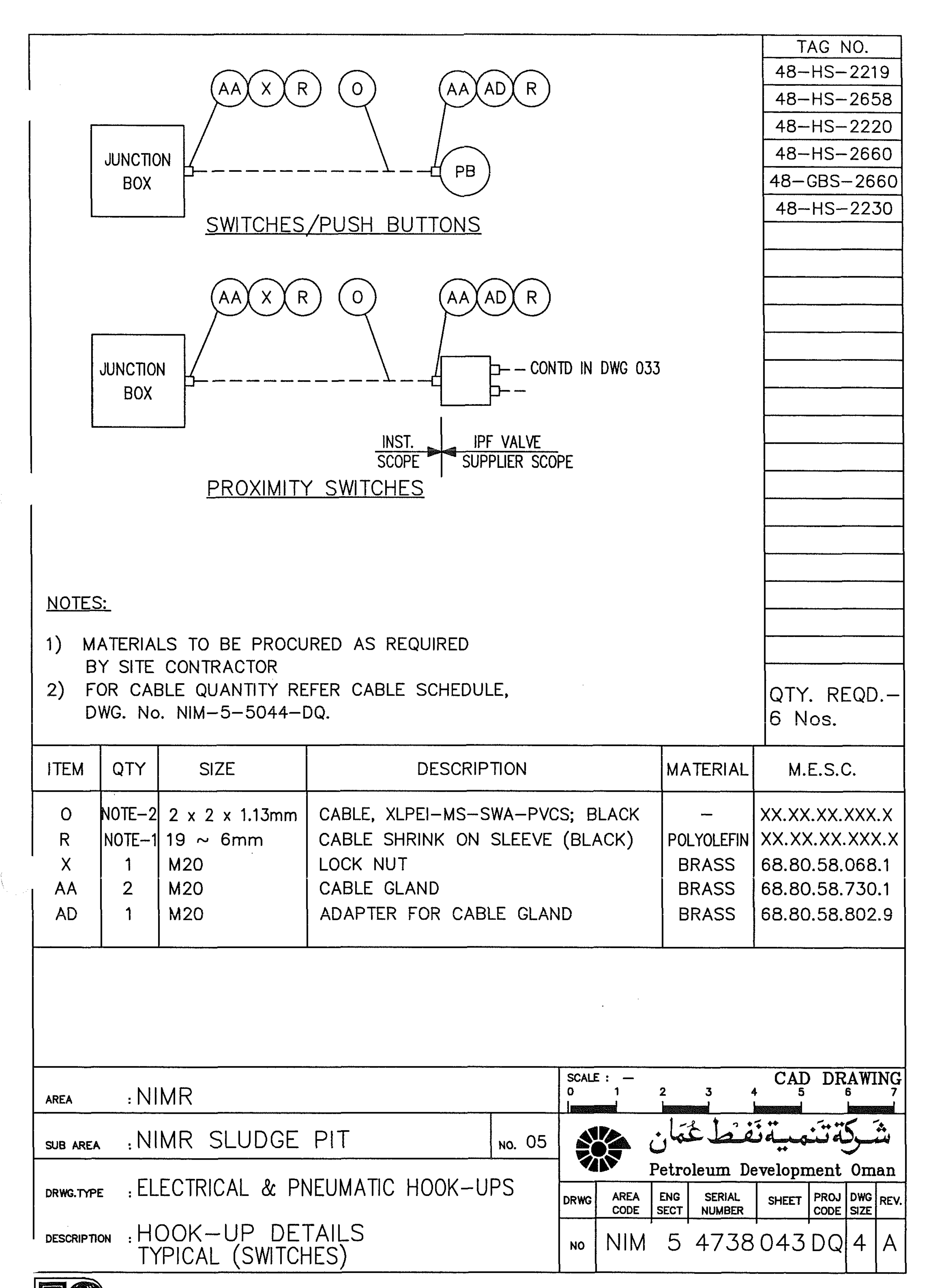
SCALE : – 0 1 2 3 4 5 6 7

CAD DRAWING

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DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	042	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



NOTES:

1) MATERIALS TO BE PROCURED AS REQUIRED BY SITE CONTRACTOR
2) FOR CABLE QUANTITY REFER CABLE SCHEDULE, DWG. No. NIM-5-5044-DQ.

ITEM	QTY	SIZE	DESCRIPTION	MATERIAL	M.E.S.C.
O	NOTE-2	2 x 2 x 1.13mm	CABLE, XLPEI-MS-SWA-PVCS; BLACK	–	XX.XX.XX.XXX.X
R	NOTE-1	19 ~ 6mm	CABLE SHRINK ON SLEEVE (BLACK)	POLYOLEFIN	XX.XX.XX.XXX.X
X	1	M20	LOCK NUT	BRASS	68.80.58.068.1
AA	2	M20	CABLE GLAND	BRASS	68.80.58.730.1
AD	1	M20	ADAPTER FOR CABLE GLAND	BRASS	68.80.58.802.9

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : ELECTRICAL & PNEUMATIC HOOK-UPS

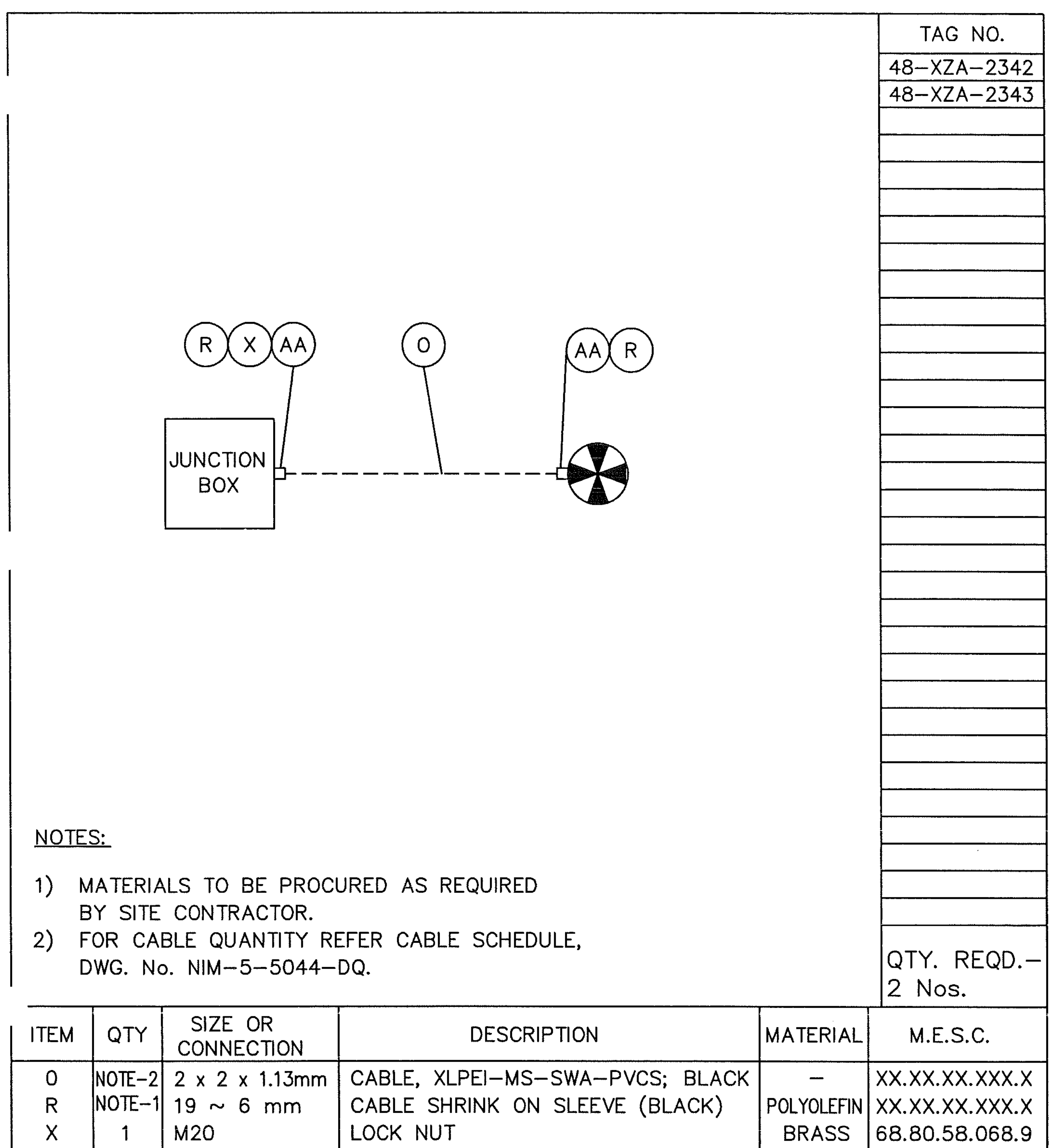
DESCRIPTION : HOOK-UP DETAILS TYPICAL (SWITCHES)

SCALE : — CAD DRAWING
0 1 2 3 4 5 6 7

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DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	043	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



NOTES:

1) MATERIALS TO BE PROCURED AS REQUIRED BY SITE CONTRACTOR.
2) FOR CABLE QUANTITY REFER CABLE SCHEDULE, DWG. No. NIM–5–5044–DQ.

ITEM	QTY	SIZE OR CONNECTION	DESCRIPTION	MATERIAL	M.E.S.C.
O	NOTE-2	2 x 2 x 1.13mm	CABLE, XLPEI–MS–SWA–PVCS; BLACK	–	XX.XX.XX.XXX.X
R	NOTE-1	19 ~ 6 mm	CABLE SHRINK ON SLEEVE (BLACK)	POLYOLEFIN	XX.XX.XX.XXX.X
X	1	M20	LOCK NUT	BRASS	68.80.58.068.9
AA	2	M20	CABLE GLAND	BRASS	68.80.58.730.1

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : ELECTRICAL & PNEUMATIC HOOK-UPS

DESCRIPTION : HOOK–UP DETAILS HEAT DETECTOR

SCALE : – CAD DRAWING

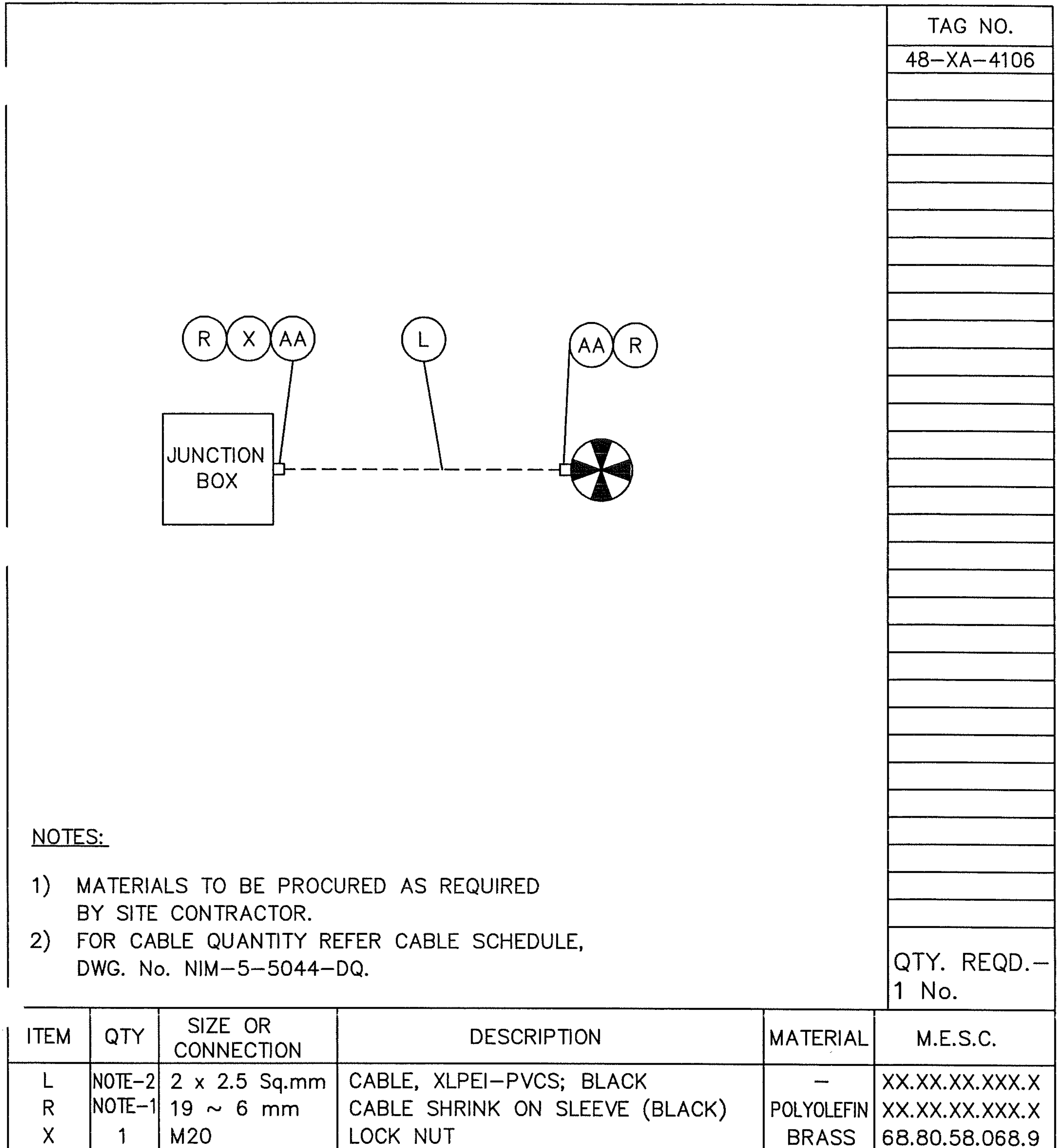
0 1 2 3 4 5 6 7

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	045	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



NOTES:

1) MATERIALS TO BE PROCURED AS REQUIRED BY SITE CONTRACTOR.
2) FOR CABLE QUANTITY REFER CABLE SCHEDULE, DWG. No. NIM–5–5044–DQ.

ITEM	QTY	SIZE OR CONNECTION	DESCRIPTION	MATERIAL	M.E.S.C.
L	NOTE–2	2 x 2.5 Sq.mm	CABLE, XLPEI–PVCS; BLACK	–	XX.XX.XX.XXX.X
R	NOTE–1	19 ~ 6 mm	CABLE SHRINK ON SLEEVE (BLACK)	POLYOLEFIN	XX.XX.XX.XXX.X
X	1	M20	LOCK NUT	BRASS	68.80.58.068.9
AA	2	M20	CABLE GLAND	BRASS	68.80.58.730.1

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : ELECTRICAL & PNEUMATIC HOOK–UPS

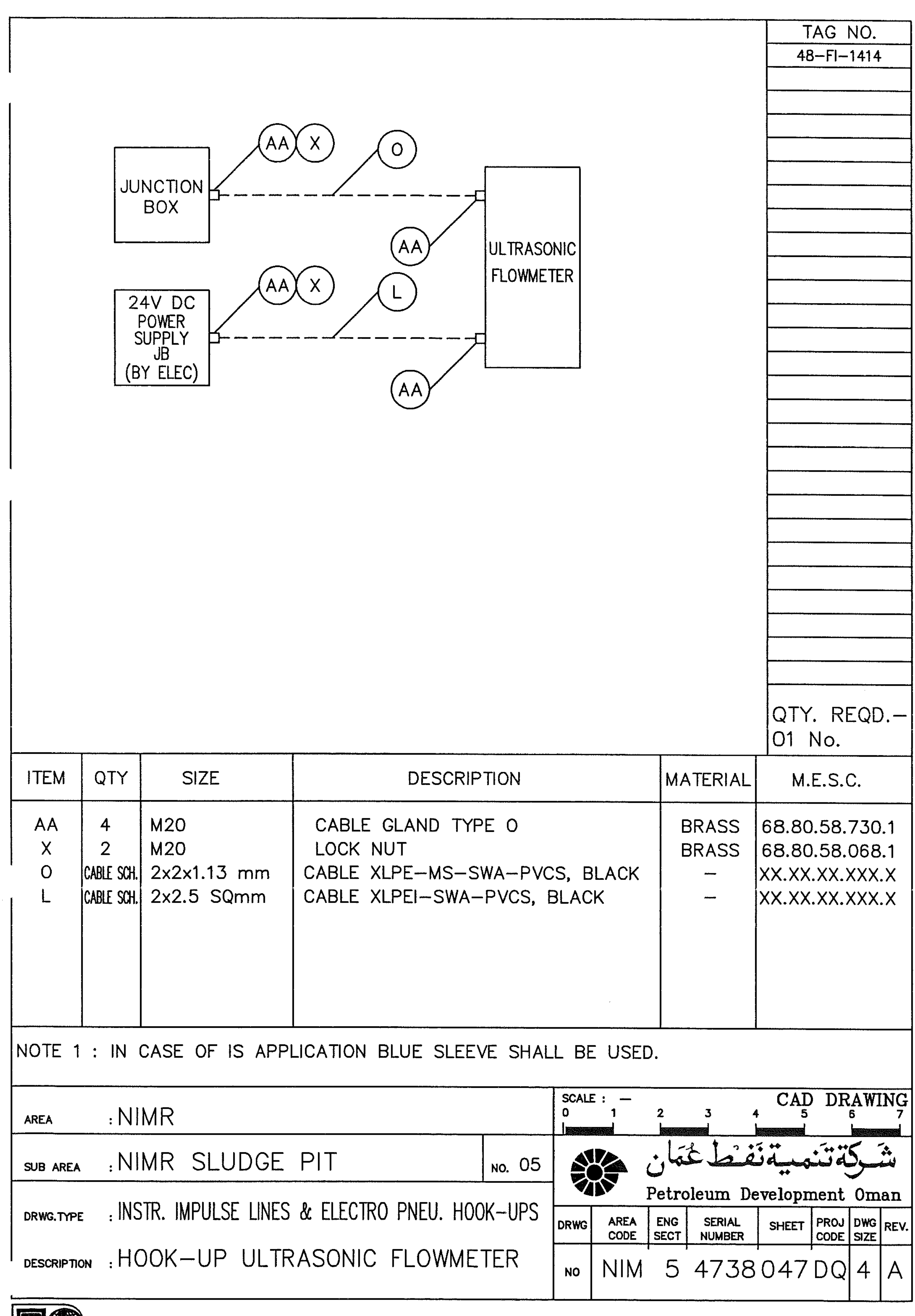
DESCRIPTION : HOOK–UP DETAILS HOOTER

SCALE : – 0 1 2 3 4 5 6 7

CAD DRAWING

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DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	046	DQ	4	A



ITEM	QTY	SIZE	DESCRIPTION	MATERIAL	M.E.S.C.
AA	4	M20	CABLE GLAND TYPE O	BRASS	68.80.58.730.1
X	2	M20	LOCK NUT	BRASS	68.80.58.068.1
O	CABLE SCH.	2x2x1.13 mm	CABLE XLPE–MS–SWA–PVCS, BLACK	–	XX.XX.XX.XXX.X
L	CABLE SCH.	2x2.5 SQmm	CABLE XLPEI–SWA–PVCS, BLACK	–	XX.XX.XX.XXX.X

NOTE 1 : IN CASE OF IS APPLICATION BLUE SLEEVE SHALL BE USED.

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INSTR. IMPULSE LINES & ELECTRO PNEU. HOOK-UPS

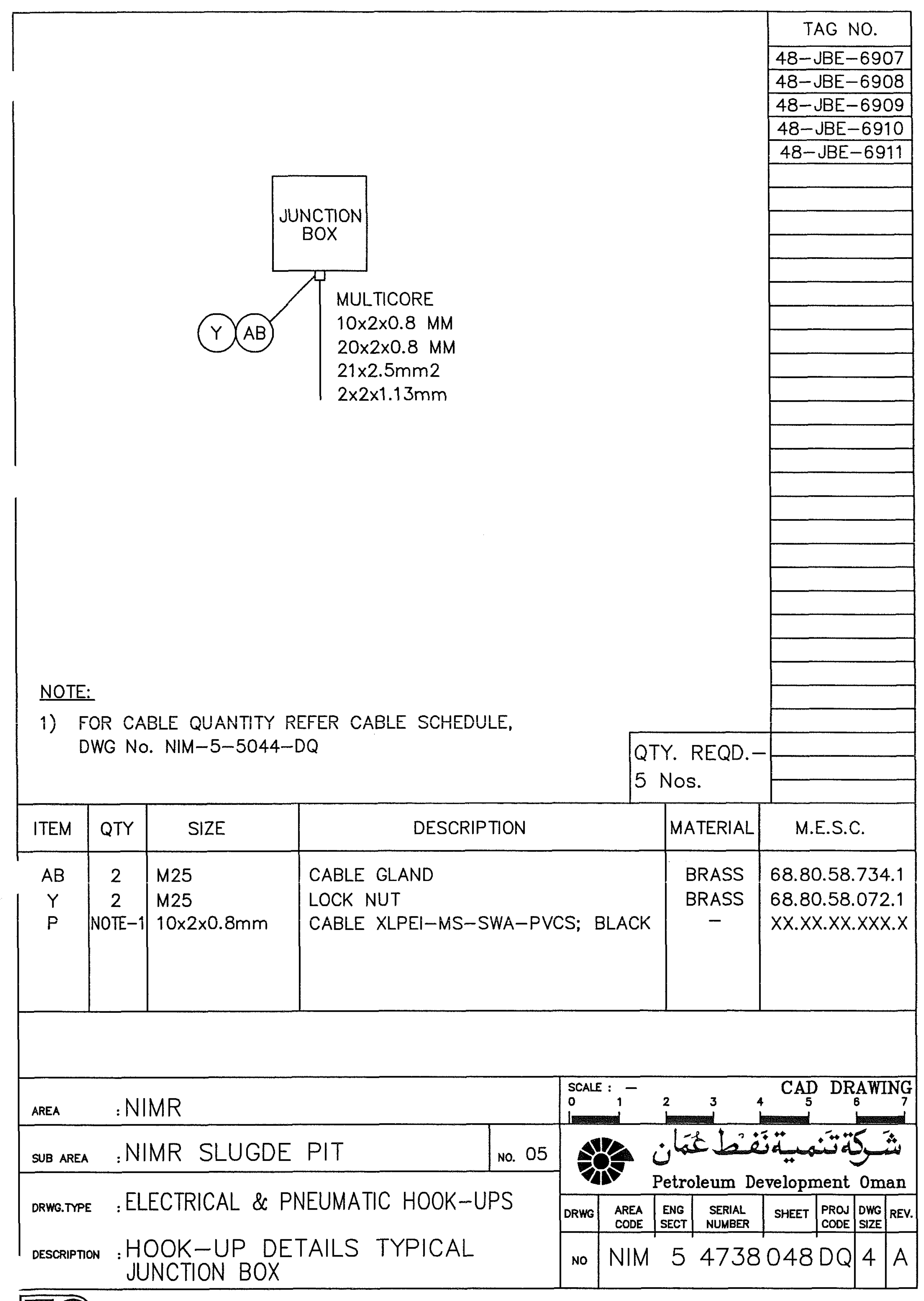
DESCRIPTION : HOOK–UP ULTRASONIC FLOWMETER

SCALE : –   CAD DRAWING

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	047	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



TAG NO.
48-JBE-6907
48-JBE-6908
48-JBE-6909
48-JBE-6910
48-JBE-6911

NOTE:

1) FOR CABLE QUANTITY REFER CABLE SCHEDULE, DWG No. NIM-5-5044-DQ

QTY. REQD.- 5 Nos.

ITEM	QTY	SIZE	DESCRIPTION	MATERIAL	M.E.S.C.
AB	2	M25	CABLE GLAND	BRASS	68.80.58.734.1
Y	2	M25	LOCK NUT	BRASS	68.80.58.072.1
P	NOTE-1	10x2x0.8mm	CABLE XLPEI-MS-SWA-PVCS; BLACK	–	XX.XX.XX.XXX.X

AREA : NIMR

SUB AREA : NIMR SLUGDE PIT NO. 05

DRWG.TYPE : ELECTRICAL & PNEUMATIC HOOK-UPS

DESCRIPTION : HOOK-UP DETAILS TYPICAL JUNCTION BOX

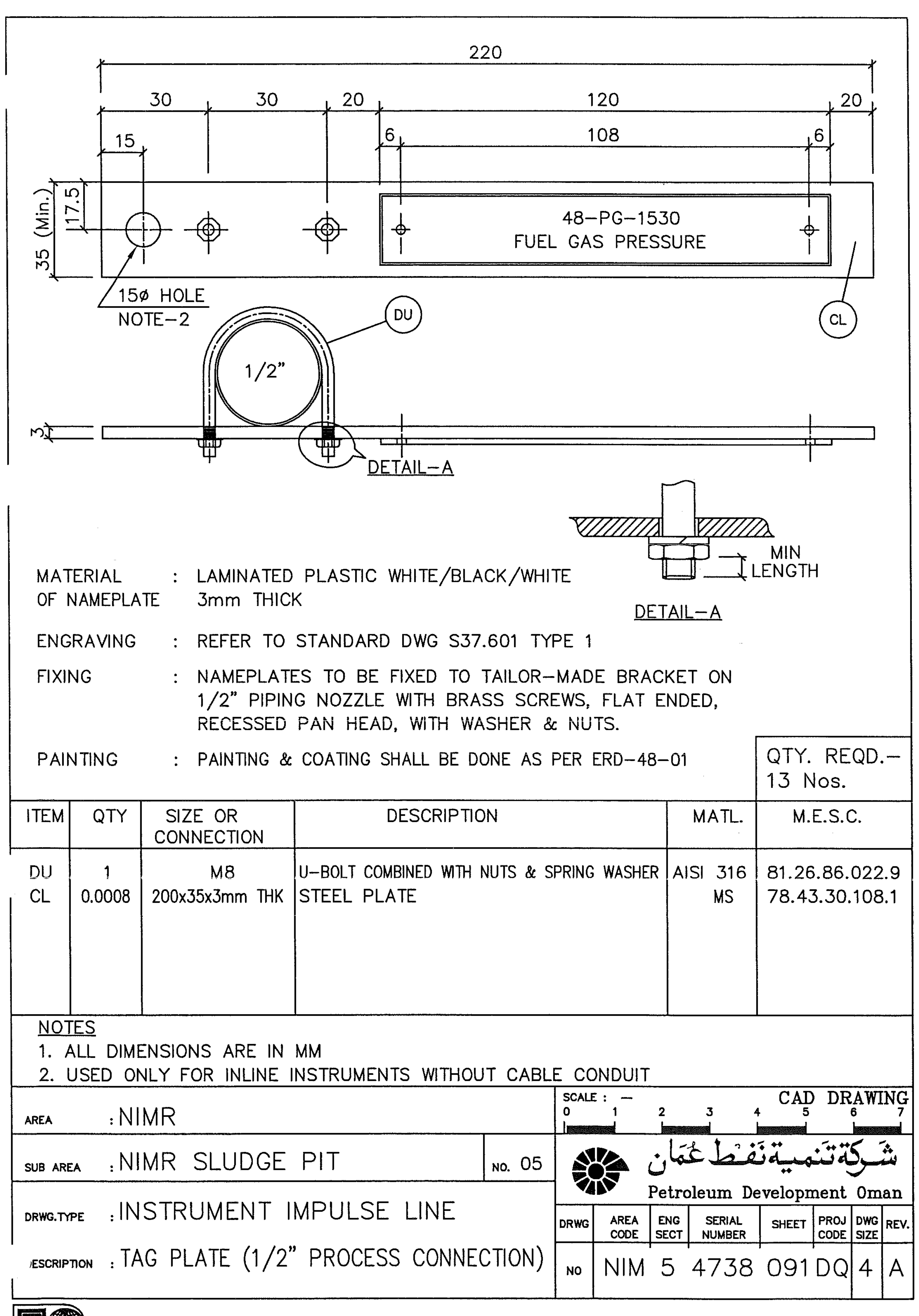
SCALE : – CAD DRAWING

0 1 2 3 4 5 6 7

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Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	048	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



MATERIAL OF NAMEPLATE : LAMINATED PLASTIC WHITE/BLACK/WHITE 3mm THICK

ENGRAVING : REFER TO STANDARD DWG S37.601 TYPE 1

FIXING : NAMEPLATES TO BE FIXED TO TAILOR-MADE BRACKET ON 1/2" PIPING NOZZLE WITH BRASS SCREWS, FLAT ENDED, RECESSED PAN HEAD, WITH WASHER & NUTS.

PAINTING : PAINTING & COATING SHALL BE DONE AS PER ERD-48-01

QTY. REQD.- 13 Nos.

ITEM	QTY	SIZE OR CONNECTION	DESCRIPTION	MATL.	M.E.S.C.
DU	1	M8	U-BOLT COMBINED WITH NUTS & SPRING WASHER	AISI 316	81.26.86.022.9
CL	0.0008	200x35x3mm THK	STEEL PLATE	MS	78.43.30.108.1

NOTES
1. ALL DIMENSIONS ARE IN MM
2. USED ONLY FOR INLINE INSTRUMENTS WITHOUT CABLE CONDUIT

AREA : NIMR

SCALE : —
0 1 2 3 4 5 6 7

CAD DRAWING

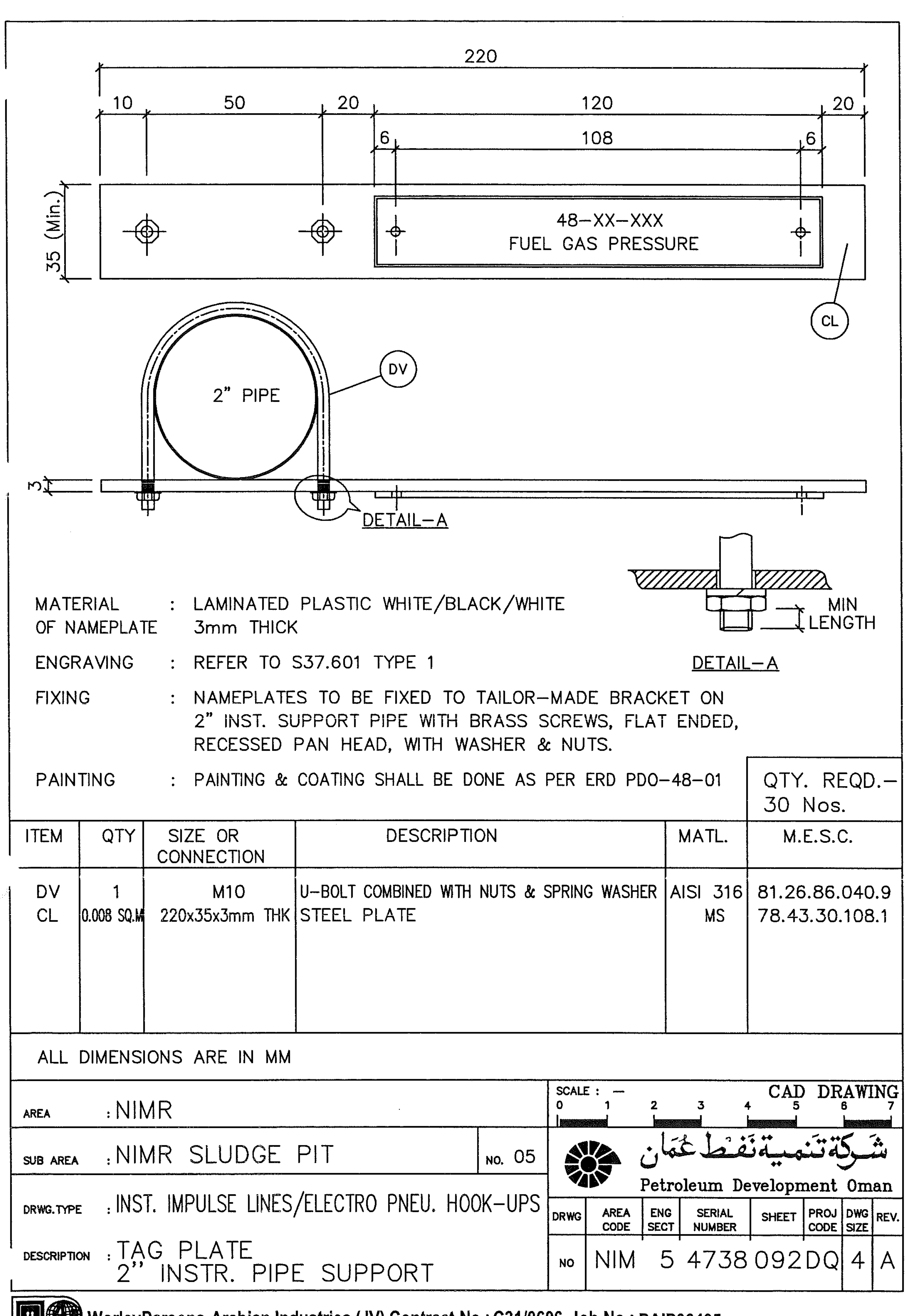
SUB AREA : NIMR SLUDGE PIT NO. 05

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG.TYPE : INSTRUMENT IMPULSE LINE

DESCRIPTION : TAG PLATE (1/2" PROCESS CONNECTION)

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	091	DQ	4	A



MATERIAL OF NAMEPLATE : LAMINATED PLASTIC WHITE/BLACK/WHITE 3mm THICK

ENGRAVING : REFER TO S37.601 TYPE 1

FIXING : NAMEPLATES TO BE FIXED TO TAILOR-MADE BRACKET ON 2" INST. SUPPORT PIPE WITH BRASS SCREWS, FLAT ENDED, RECESSED PAN HEAD, WITH WASHER & NUTS.

PAINTING : PAINTING & COATING SHALL BE DONE AS PER ERD PDO-48-01

QTY. REQD.- 30 Nos.

ITEM	QTY	SIZE OR CONNECTION	DESCRIPTION	MATL.	M.E.S.C.
DV	1	M10	U-BOLT COMBINED WITH NUTS & SPRING WASHER	AISI 316	81.26.86.040.9
CL	0.008 SQ.M	220x35x3mm THK	STEEL PLATE	MS	78.43.30.108.1

ALL DIMENSIONS ARE IN MM

AREA	: NIMR
SUB AREA	: NIMR SLUDGE PIT — NO. 05
DRWG. TYPE	: INST. IMPULSE LINES/ELECTRO PNEU. HOOK-UPS
DESCRIPTION	: TAG PLATE 2" INSTR. PIPE SUPPORT

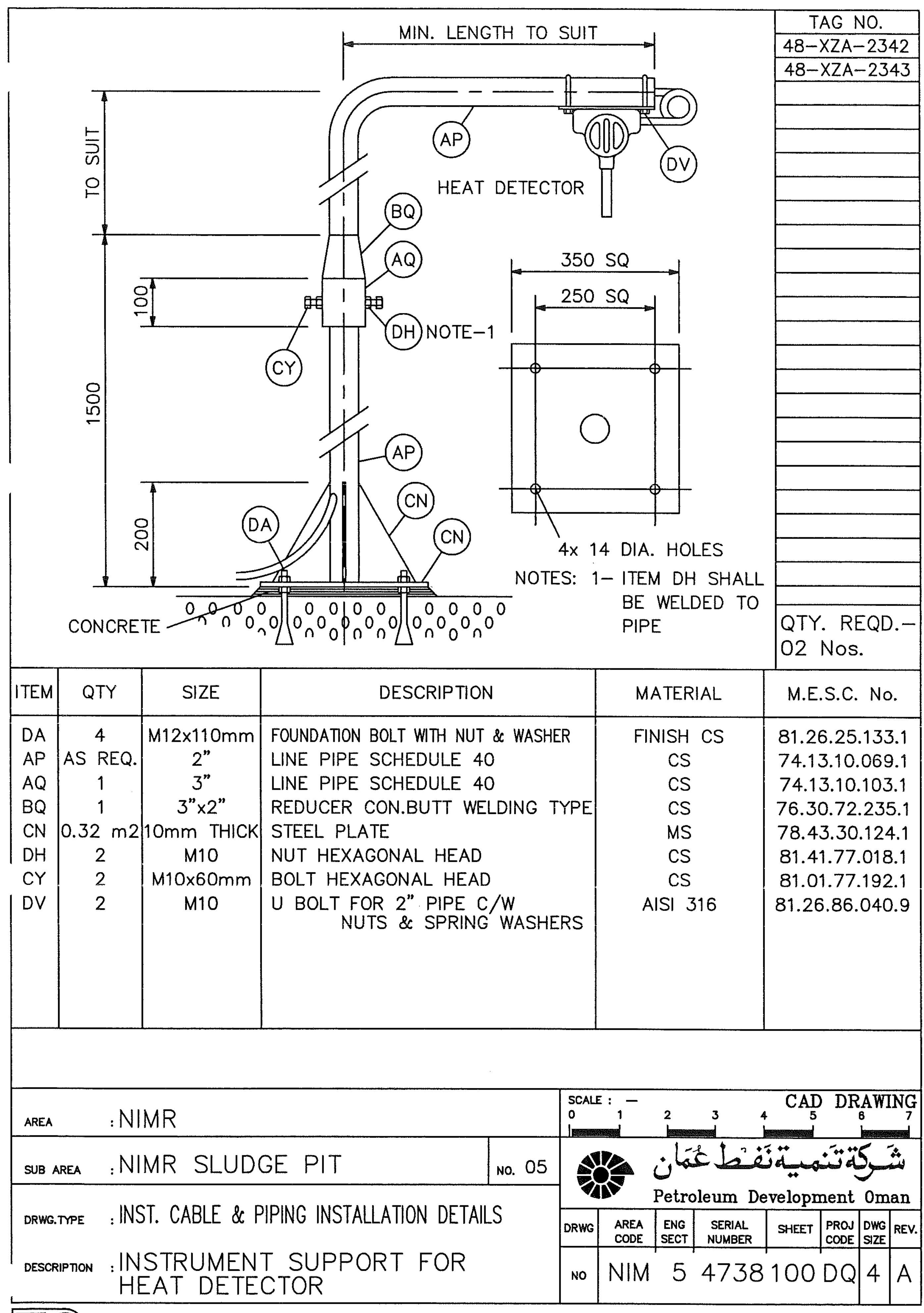
SCALE : — 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان
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DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	092	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



ITEM	QTY	SIZE	DESCRIPTION	MATERIAL	M.E.S.C. No.
DA	4	M12x110mm	FOUNDATION BOLT WITH NUT & WASHER	FINISH CS	81.26.25.133.1
AP	AS REQ.	2"	LINE PIPE SCHEDULE 40	CS	74.13.10.069.1
AQ	1	3"	LINE PIPE SCHEDULE 40	CS	74.13.10.103.1
BQ	1	3"x2"	REDUCER CON.BUTT WELDING TYPE	CS	76.30.72.235.1
CN	0.32 m2	10mm THICK	STEEL PLATE	MS	78.43.30.124.1
DH	2	M10	NUT HEXAGONAL HEAD	CS	81.41.77.018.1
CY	2	M10x60mm	BOLT HEXAGONAL HEAD	CS	81.01.77.192.1
DV	2	M10	U BOLT FOR 2" PIPE C/W NUTS & SPRING WASHERS	AISI 316	81.26.86.040.9

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG. TYPE : INST. CABLE & PIPING INSTALLATION DETAILS

DESCRIPTION : INSTRUMENT SUPPORT FOR HEAT DETECTOR

SCALE : — 0 1 2 3 4 5 6 7

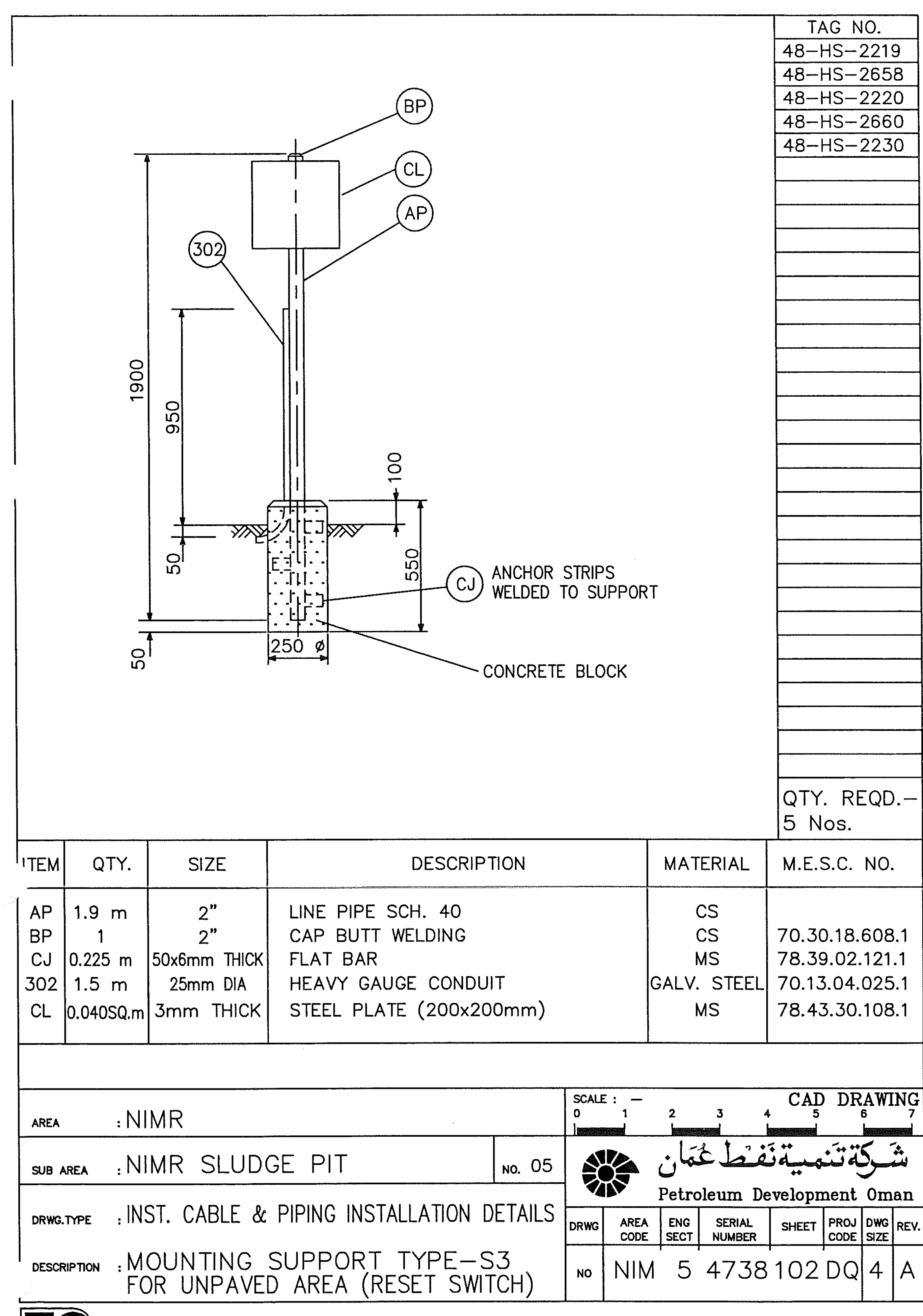
CAD DRAWING

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DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	100	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



TAG NO.
48-HS-2219
48-HS-2658
48-HS-2220
48-HS-2660
48-HS-2230

QTY. REQD.– 5 Nos.

ITEM	QTY.	SIZE	DESCRIPTION	MATERIAL	M.E.S.C. NO.
AP	1.9 m	2"	LINE PIPE SCH. 40	CS	
BP	1	2"	CAP BUTT WELDING	CS	70.30.18.608.1
CJ	0.225 m	50x6mm THICK	FLAT BAR	MS	78.39.02.121.1
302	1.5 m	25mm DIA	HEAVY GAUGE CONDUIT	GALV. STEEL	70.13.04.025.1
CL	0.040SQ.m	3mm THICK	STEEL PLATE (200x200mm)	MS	78.43.30.108.1

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INST. CABLE & PIPING INSTALLATION DETAILS

DESCRIPTION : MOUNTING SUPPORT TYPE-S3 FOR UNPAVED AREA (RESET SWITCH)

SCALE : — 0 1 2 3 4 5 6 7

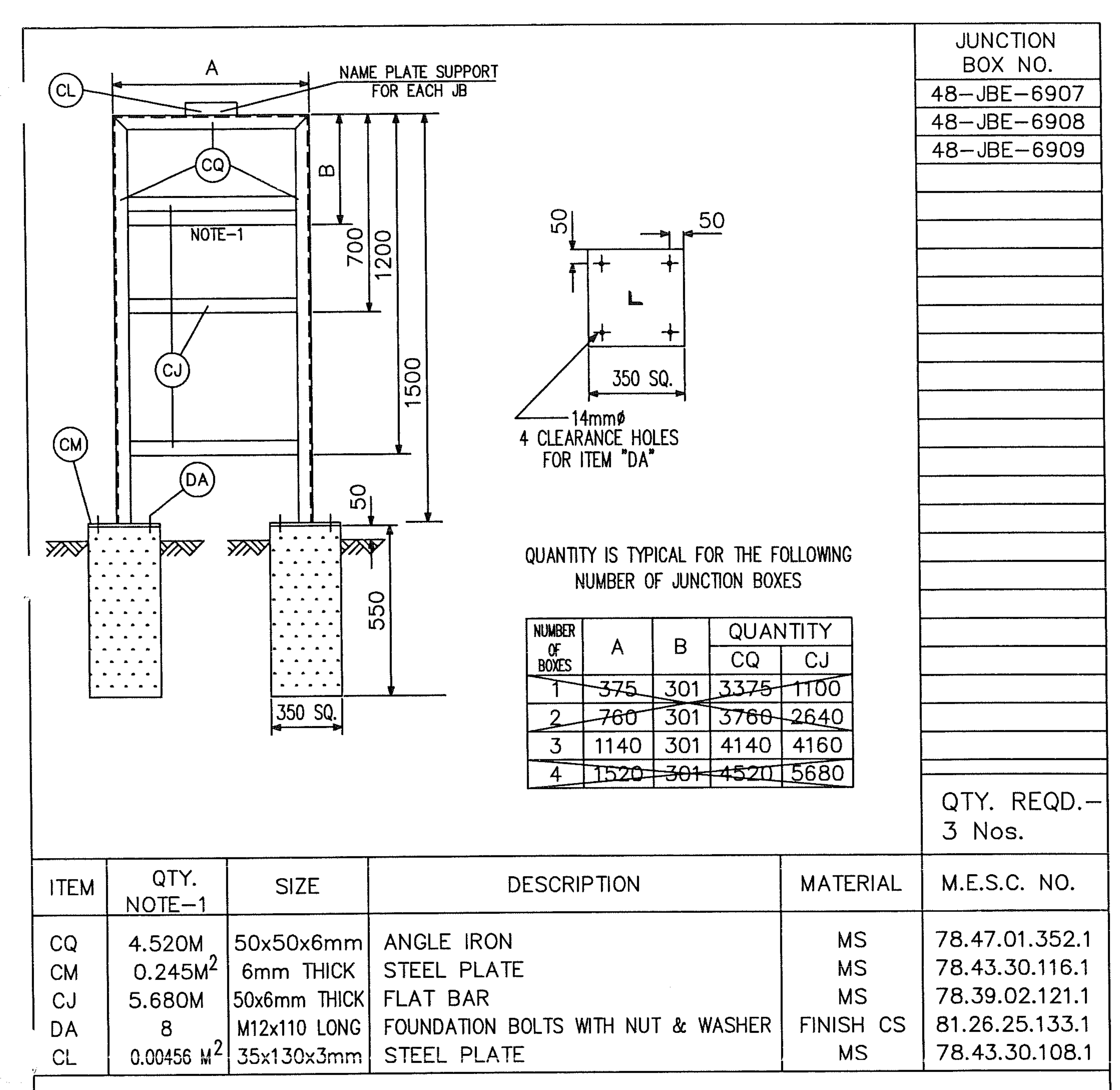
CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	102	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



JUNCTION BOX NO.
48-JBE-6907
48-JBE-6908
48-JBE-6909

QTY. REQD.- 3 Nos.

QUANTITY IS TYPICAL FOR THE FOLLOWING NUMBER OF JUNCTION BOXES

NUMBER OF BOXES	A	B	QUANTITY CQ	QUANTITY CJ
~~1~~	~~375~~	~~301~~	~~3375~~	~~1100~~
~~2~~	~~760~~	~~301~~	~~3760~~	~~2640~~
3	1140	301	4140	4160
~~4~~	~~1520~~	~~301~~	~~4520~~	~~5680~~

ITEM	QTY. NOTE-1	SIZE	DESCRIPTION	MATERIAL	M.E.S.C. NO.
CQ	4.520M	50x50x6mm	ANGLE IRON	MS	78.47.01.352.1
CM	0.245M^2	6mm THICK	STEEL PLATE	MS	78.43.30.116.1
CJ	5.680M	50x6mm THICK	FLAT BAR	MS	78.39.02.121.1
DA	8	M12x110 LONG	FOUNDATION BOLTS WITH NUT & WASHER	FINISH CS	81.26.25.133.1
CL	0.00456 M^2	35x130x3mm	STEEL PLATE	MS	78.43.30.108.1

NOTES:

1. FLAT BARS SHALL BE WELDED ADJACENT TO EACH OTHER.
2. PAINTING & COATING AS PER ERD PDO-48.01
3. FOR UNPAVED AREA USE CONCRTE SUPPORT, REFER STD-5-0801-031
4. REFER "CONCRETE BLOCK FOR SUPPORTS IN UNPAVED AREA" STD DRAWING IN SHEET 020

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : INST. CABLE & PIPING INSTALLATION DETAILS

DESCRIPTION : JUNCTION BOX MOUNTING SUPPORT FOR UNPAVED AREA

SCALE : — 0 1 2 3 4 5 6 7

CAD DRAWING

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4738	103	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

I.C.T.D.

JUNCTION BOXES

SCOPE OF 'DQ' PROJECT
WBS NO.: NIM.IN.09.011

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	MAR.'11	KK			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/23N	
0	DEC.'10	NS	PT	KDA	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	IH

15/4/201

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	B.I. NO	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
M	NOV.'08	ASD			AS BUILT UP TO NOV.'08	OT.08.005	OSO/22N	SK
L	APR.05	DOI			AS BUILT FOR PROJECT '5X'	02.001		BW
K	JAN.05	DOI			AS BUILT FOR PROJECT '3Y & X4'	00.394/95.052		BW
J	DEC.04				AS BUILT FOR PROJECT '5R'	01.116	OSE/24N	
H	DEC.04	DOI			AS BUILT FOR PROJECT '5V'	02.002		BW
G	JUNE.02	MAX			AS BUILT FOR PROJECT 7G		OME/13	
0	10/85	GT			ORIGINAL ISSUE	–	–	

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : PRODUCTION STION — NO. 05

DRWG.TYPE : I.C.T.D.

DESCRIPTION : JUNCTION BOXES FRONT SHEET

SCALE : – CAD DRAWING
0 1 2 3 4 5 6 7

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5043	001	DQ	4	A


WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

SHEET NO.	JUNCTION BOX DESCRIPTION	DATE OF ISSUE / REVISION LETTER													
		O	Z	A	B	C	H	J	K	L	M	O	A	B	C
001	FRONT SHEET	10/85	03/00	03/00	06/00	09/00	DEC.04	DEC.04	JAN.05	APR.05	NOV.'0	DEC.'10	MAR.'11		
002	INDEX/ REV SHT	10/85	03/00	03/00	06/00	09/00	DEC.04	DEC.04	JAN.05	APR.05	NOV.'0	DEC.'10	MAR.'11		
003	INDEX/ REV SHT	10/85				09/00			JAN.05			DEC.'10	MAR.'11		
004	INDEX/ REV SHT	10/85	03/00	03/00					JAN.05						
005	INDEX/ REV SHT	10/95			06/00	09/00			JAN.05	APR.05					
006	INDEX/ REV SHT	05/86	03/00	03/00	06/00	09/00	DEC.04		JAN.05	APR.05	NOV.'08				
007	INDEX/ REV SHT									APR.05					
008	INDEX/ REV SHT					09/00				APR.05					
009	INDEX/ REV SHT							DEC.04			NOV.'08				
010	INDEX/ REV SHT				06/00		DEC.04		JAN.05	APR.05	NOV.'08				
10A	INDEX/ REV SHT	08/00					DELETED								
011	48–JBE–11	10/85													
012	48–JBE–12	10/85													
013	48–JBE–13	10/85													
014	48–JBE–14	10/85													
015	48–JBE–15	10/85													
016	48–JBE–16	10/85													
017	48–JBE–17	10/85													
018	48–JBE–18	10/85													
019	48–JBE–19	10/85													
020	48–JBE–20	10/85													
021	48–JBE–21	10/85													
022	48–JBE–22	10/85													
023	48–JBE–23	10/85													
024	48–JBE–24	10/85													
025	48–JBE–25	10/85													
026	48–JBE–26	10/85													
027	48–JBE–27	10/85				09/00			JAN.05						
028	48–JBE–28 (SPARE)	10/85													
029	48–JBE–29	10/85													
030	48–JBE–30	10/85													
031	48–JBE–31	10/85													
032	48–JBE–32	10/85													
33	48–JBE–33	10/85							JAN.05						
034	48–JBE–34	10/85										DEC.'10	MAR.'11		
035	48–JBE–35	10/85							JAN.05						
036	48–JBE–36	10/85							JAN.05						
037	48–JBE–37	10/85							JAN.05						
038	48–JBE–38	10/85													
039	48–JBE–39	10/85													
040	48–JBE–40	10/85													

AREA : NIMR

SUB AREA : PRODUCTION STATION — NO. 05

DRWG.TYPE : I.C.T.D.

DESCRIPTION : JUNCTION BOX INDEX AND REVISION SHEET

SCALE : — 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5043	002	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

SHEET NO.	JUNCTION BOX DESCRIPTION	DATE OF ISSUE / REVISION LETTER													
		O	C	D	E	F	G	H*	R	S	T	O	A	B	C
041	48-JBE-41 (VENDOR)	10/85													
042	48-JBE-42 (VENDOR)	10/85													
043	48-JBE-43 (VENDOR)	10/85													
044	SPARE														
045	48-JBE-45	10/85										DEC.'10	MAR.'11		
046	48-JBE-46	10/85						12/04							
047	48-JBE-47	10/85						12/04							
048	48-JBE-48	10/85						12/04		10/97					
049	SPARE	10/85													
050	48-JBE-50	10/85													
051	48-JBE-51	10/85													
052	48-JBE-52	10/85										DEC.'10	MAR.'11		
053	48-JBE-53	10/85													
054	48-JBE-54	10/85													
055	48-JBE-55	10/85													
056	48-JBE-56	10/85													
057	48-JBE-57	10/85													
058	48-JBE-58	10/85	10/00												
059	48-JBE-59	10/85													
060	48-JBE-60	10/85													
061	48-JBE-61	10/85								10/97					
062	48-JBE-62	10/85													
063	48-JBE-63	10/85													
064	48-JBE-64	10/85													
065	48-JBE-65	10/85													
066	48-JBE-66	10/85													
067	48-JBE-67	10/85													
068	48-JBE-68	10/85									10/97				
069	48-JBE-69	10/85									10/97				
070	48-JBE-70	10/85													
071	48-JBE-71	10/85	10/00												
072	48-BSP-001 (VENDOR)	10/85													
073	48-BSP-002 (VENDOR)	10/85													
074	48-BSP-003 (VENDOR)	10/85													
075	SPARE														
076	SPARE														
077	SPARE														
078	SPARE														
079	SPARE														
080	48-JBE-80	10/85													

* LATEST REVISION IS 'H' DEC. 04

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : I.C.T.D.

DESCRIPTION : JUNCTION BOX INDEX AND REVISION SHEET

SCALE : — 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5043	003	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

TAG NUMBER 48–	EQUIPMENT CONNECTION	EXT. CABLE No.&SIZE / TYPE	CORE	TERMINAL	MULTICORE CABLE No. / TYPE / SIZE / CONNECTED TO	CORE
PDZA–212	P 4817	48–E–412, 1x4x1.2	R & B	1	48–E–124 PVCI–MS–SWA–PVCS 5x4x0.8 SDE–002 STRIP A181–200	1 R
			W & O	2		1 B
HS–028		48–E–413, 1x4x1.2	R & B	3		1 W
			W & O	4		1 ø
PZA–106		48–E–414, 1x4x1.2	R & B	5		2 R
			W & O	6		2 B
PZA–105		48–E–415, 1x4x1.2	R & B	7		2 W
			W & O	8		2 ø
PZA–107		48–E–416, 1x4x1.2	R & B	9		3 R
			W & O	10		3 B
SPARE				11		3 W
				12		3 ø
PDIZA–1523	+	E–2736 2x2x1.13mm	BK+B	13		4 R
	–	XLPEI–MS–SWA–PVCS	G+BN	14		4 B
SPARE				15		4 W
				16		4 ø
				17		5 R
				18		5 B
				19		5 W
				20		5 ø

NOTE: SCREENS CONNECTED TO AN ISOLATED EARTH BAR

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : INST. CABLE TERMINATION DETAILS

DESCRIPTION : 48–JBE–34

SCALE : —

0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5043	034	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

TAG NUMBER	EQUIPMENT CONNECTION	EXT. CABLE No.&SIZE / TYPE	CORE	TERMINAL	MULTICORE CABLE No. / TYPE / SIZE / CONNECTED TO	CORE
GBS-791(O)	F-4803	48-E-519, 1x4x1.2	R	1	48-E-135 PVCI-MS-SWA-PVCS 10x4x0.8 SDE-002 STRIP A 001-040	1 R
			B	2		1 B
GBS-791(C)	F-4803	48-E-519, 1x4x1.2	W	3		1 W
			ø	4		1 ø
GBS-792(O)	F-4803	48-E-520, 1x4x1.2	R	5		2 R
			B	6		2 B
GBS-792(C)	F-4803	48-E-520, 1x4x1.2	W	7		2 W
			ø	8		2 ø
PZA-084	F-4803	48-E-505, 1x4x1.2	R & B	9		3 R
			W & ø	10		3 B
PZA-086	F-4803	48-E-506, 1x4x1.2	R & B	11		3 W
			W & ø	12		3 ø
SPARE	F-4803			13		4 R
				14		4 B
SPARE	F-4803			15		4 W
				16		4 ø
SPARE	F-4803			17		5 R
				18		5 B
SPARE	F-4803			19		5 W
				20		5 ø
PZA-072	F-4803	48-E-516, 1x4x1.2	R & B	21		6 R
			W & ø	22		6 B
GBS-794(O)	F-4803	48-E-514, 1x4x1.2	R	23		6 W
			B	24		6 ø
GBS-794(C)	F-4803	48-E-514, 1x4x1.2	W	25		7 R
			ø	26		7 B
GBS-793(O)	F-4803	48-E-515, 1x4x1.2	R	27		7 W
			B	28		7 ø
GBS-793(C)	F-4803	48-E-515, 1x4x1.2	W	29		8 R
			ø	30		8 B
SPARE				31		8 W
				32		8 ø
GBS-2660 (O)	T-4807	48-E-2737 2x2x1.13mm XLPEI-MS-SWA-PVCS	BK	33		9 R
			G	34		9 B
GBS-2660 (C)			B	35		9 W
			BN	36		9 ø
HS-2230	T-4807	48-E-2738 2x2x1.13mm XLPEI-MS-SWA-PVCS	BK+B	37		10 R
			G+BN	38		10 B
SPARE				39		10 W
				40		10 ø

NOTE: SCREENS CONNECTED TO AN ISOLATED EARTH BAR

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : INST. CABLE TERMINATION DETAILS

DESCRIPTION : 48-JBE-45

SCALE : — 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5043	045	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

TAG NUMBER	EQUIPMENT CONNECTION	EXT. CABLE No.&SIZE / TYPE	CORE	TERMINAL	MULTICORE CABLE No. / TYPE / SIZE / CONNECTED TO	CORE
UZ-794	F 4803	48-E-556, 2x2.5	1BK	1	48-E-142 PVCI-SWA-PVCS 21x2.5 SDE-002 STRIP-A-381-100	1
			2B	2		2
UZ-793	F 4803	48-E-557, 2x2.5	1BK	3		3
			2B	4		4
UZ-792	F 4803	48-E-558, 2x2.5	1BK	5		5
			2B	6		6
UZ-791	F 4803	48-E-559, 2x2.5	1BK	7		7
			2B	8		8
UZ-797	F 4803	48-E-529, 2x2.5	1BK	9		9
			2B	10		10
PICA-083 (SOV)	F 4803	48-E-561, 2x2.5	1BK	11		11
			2B	12		12
SPARE				13		13
				14		14
UZV-2660	T-4807	48-E-2735 2x2.5Sq.mm XLPEI-SWA-PVCS	1	15		15
			2	16		16
SPARE				17		17
				18		18
SPARE				19		19
				20		20

NOTE: SCREENS CONNECTED TO AN ISOLATED EARTH BAR

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : INST. CABLE TERMINATION DETAILS

DESCRIPTION : 48-JBE-52

SCALE : — CAD DRAWING

0 1 2 3 4 5 6 7

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5043	052	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

LIST OF ALARM AND TRIP SETTINGS

1. ALL SET POINTS ARE CONVERTED INTO COUNTS IN TRICONEX PLC SYSTEM. FOR ANALOG INPUT 0–20mA = 0–4095 COUNTS (4mA = 819 COUNTS). THIS APPLIES TO DIRECT AND REVERSE SIGNALS.

2. ALL RTD INPUTS ARE 0–600 DEG.C RANGE. 1 DEG.C = 6.825 COUNTS.

SCOPE OF 'DQ' PROJECT
WBS NO.: NIM.IN.09.011

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	MAR.'11	KK	[signature]	[signature]	APPROVED FOR CONSTRUCTION	IN.09.011	OSE/23N	[signature] 15/4/2011
0	DEC'10	Mrp	PT	KDA	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	IH

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

REFERENCE TO EQUIPMENT/TAG NUMBERS ARE TO BE PREFIXED BY AREA CODE	REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PDO APPROVAL PROJ.ENG.	PDO APPROVAL SPEC.ENG.
	G	NOV.'08	ASD	AS BUILT UP TO NOV.'08	0T.08.005	OSO/22N	SK
	F	APR'05		AS BUILT FOR PROJ '5X'	02.001		BW
	E	JAN.05		AS BUILT FOR PROJ. '3Y'	0.394		BW
	D	NOV'04		AS-BUILT FOR PROJ.'5R'	01.116	OSE/24N	
	C	MAR'02		AS BUILT FOR PROJECT '4P'	00.802	OME/41	JAMAL
	A	JUN'01		AS BUILT FOR PROJECT '2W'	99.614	ONE/22	
	Z	JULY'00		AS BUILT FOR PROJECT 2V, 2Y & 2Z	00.826	ONE/23	
	0	23.1.86		ORIGINAL ISSUE / ISSUE FOR CONSTRUCTION			

NOTES/REFERENCE DRAWINGS — MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : PRODUCTION STATION — NO. 05

DRWG.TYPE : LIST OF ALARM AND TRIP SETTINGS

DESCRIPTION : COVER SHEET

SCALE : — CAD DRAWING 0 1 2 3 4 5 6 7

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5065	001	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

DESCRIPTION	SHEET	REV D	REV E	REV F	REV G	REV 0	REV A	REV B	REV C
COVER SHEET	001	DEC.'04	JAN.05	APR'05	NOV.'08	DEC.'10	MAR.'11		
REVISION / INDEX SHEET	002				NOV.'08	DEC.'10	MAR.'11		
REVISION / INDEX SHEET	003				NOV.'08				
REVISION / INDEX SHEET	004					DEC.'10	MAR.'11		
SPARE	005								
MISCELLANEOUS	006								
MISCELLANEOUS	007								
SPARE	008								
SPARE	009								
MISCELLANEOUS	010								
	011								
	012								
	013								
	014								
	015								
	016								
	017			APR'05					
	018								
	019								
	020			APR'05					
MISCELLANEOUS	021		JAN.05		NOV.'08				
SPARE	022								
SPARE	023			APR'05					
SPARE	024								
ANALYTICAL	025								
	026								
SPARE	027								
SPARE	028								
SPARE	029								
SPARE	030								
SPARE	031								
FLOW	032		JAN.05						

	REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
	G	NOV.'08	ASD	AS BUILT UP TO NOV.'08	0T.08.005	OSO/22N	SK
	F	APR'05		AS BUILT FOR PROJECT '5X'	02.001		BW
	E	JAN.05		AS BUILT FOR PROJ. '3Y'	0.394		BW
	D	NOV'04		AS BUILT FOR PROJECT '5R'	01.116	OSE/24N	
	0	JAN.'87		ORIGINAL ISSUE			
REFERENCE TO EQUIPMENT/TAG NUMBERS ARE TO BE PREFIXED BY AREA CODE	REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PDO APPROVAL	

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SCALE : —

CAD DRAWING

0 1 2 3 4 5 6 7

SUB AREA : PRODUCTION STATION

NO. 05

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG.TYPE : LIST OF ALARM AND TRIP SETTINGS

DESCRIPTION : REVISION / INDEX SHEET

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5065	002	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP0405

DESCRIPTION	SHEET	REV.C	REV.D	REV.E	REV.F	REV.G	REV.0	REV.A	REV.B
PRESSURE	065								
PRESSURE	066	MAR.'02	NOV.'04		APR.'05				
PRESSURE	067		CANCELLED	JAN.05.			DEC.'10	MAR.'11	
PRESSURE	068				APR.'05				
TEMPERATURE	069			JAN.05.					
	070								
	071								
	072								
	073								
	074								
	075								
	076								
	077								
	078								
	079								
	080								
	081								
	082	MAR.'02	NOV.'04						
	083				APR.'05				
	084								
	085								
	086								
	087								
	088								
	089								
	090								
	091								
	092								
	093								
	094								
	095								
	096								

REFERENCE TO EQUIPMENT/TAG NUMBERS ARE TO BE PREFIXED BY AREA CODE	REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG. (PDO APPROVAL)	SPEC.ENG. (PDO APPROVAL)
	F	APR.'05		AS BUILT FOR PROJ. '5X'	02.001		BW
	E	JAN.'05		AS BUILT FOR PROJ. '3Y'	0.394		BW
	B	FEB'02		AS BUILT FOR PROJECT '3R'	00.818	OME/26	
	A	JUN'01		AS BUILT FOR PROJ.2W	99.614	ONE/22	

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SCALE : — 0 1 2 3 4 5 6 7

CAD DRAWING

SUB AREA : PRODUCTION STATION

NO. 05

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG.TYPE : LIST OF ALARM AND TRIP SETTINGS

DESCRIPTION : REVISION / INDEX SHEET

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5065	004	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

TAG NO. UNIT: 48-	SERVICE	TRANSMITTER RANGE PROCESS UNIT	SWITCH SETTING		ADJ. H/L/ HH/LL
			PROCESS UNITS	TRANSMISSION SYSTEM UNITS	
PSA-1445	P-48145 SEAL SYSTEM PRESSURE	0-1000 kPag	600 kPag 400 kPag		H L
PSA-1445	P-48145 SEAL SYSTEM PRESSURE	0-1000 kPag	300 kPag		LL
PSA-1446	P-48146 SEAL SYSTEM PRESSURE	0-1000 kPag	600 kPag 400 kPag		H L
PSA-1446	P-48146 SEAL SYSTEM PRESSURE	0-1000 kPag	300 kPag		LL
PSA-1447	P-48147 SEAL SYSTEM PRESSURE	0-1000 kPag	600 kPag 400 kPag		H L
PSA-1447	P-48147 SEAL SYSTEM PRESSURE	0-1000 kPag	300 kPag		LL
PSA-1448	P-48148 SEAL SYSTEM PRESSURE	0-1000 kPag	600 kPag 400 kPag		H L
PSA-1448	P-48148 SEAL SYSTEM PRESSURE	0-1000 kPag	300 kPag		LL
PDSA-1492	DP.ACROSS ESDV 48-UZV-2626A	0-2500 kPa	400 kPa	6.56 mA	H
PDSA-1493	DP.ACROSS ESDV 48-UZV-2627A	0-2500 kPa	400 kPa	6.56 mA	H
PDSA-1494	DP.ACROSS ESDV 48-UZV-2628A	0-2500 kPa	400 kPa	6.56 mA	H
PDSA-1495	DP.ACROSS ESDV 48-UZV-2626C	0-2500 kPa	400 kPa	6.56 mA	H
PDSA-1496	DP.ACROSS ESDV 48-UZV-2627C	0-2500 kPa	400 kPa	6.56 mA	H
PDSA-1497	DP.ACROSS ESDV 48-UZV-2628C	0-2500 kPa	400 kPa	6.56 mA	H
PDIZA-1523	DP.ACROSS ESDV 48-UZV-2660	0-600 kPa	400 kPa	14.6 mA	H

AREA : NIMR

SCALE : 0 1 2 3 4 5 6 7 CAD DRAWING

SUB AREA : PRODUCTION STATION NO. 05

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG.TYPE : LIST OF ALARM & TRIP SETTINGS

DESCRIPTION : PRESSURE INSTRUMENTS

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5065	067	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

INSTRUMENT ENGINEERING

DATA SHEETS

Vendor details to be provided

15/4/2011

SCOPE OF 'DQ' PROJECT
WBS NO.: NIM.IN.09.011

APPROVED FOR CONSTRUCTION

THIS COMPLETE DWG. IS BASED ON 'CN' PROJECT WBS NO. NIM.IN.08.002, REV.A AFC.

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
U	NOV.'08	ASD	AS BUILT UPTO NOV.'08	OT.08.005	OSO/22N	SK
T	APR.05		AS BUILT FOR PROJECT '5X'	02.001		BW
S	JAN.05		AS BUILT FOR PROJECT '3Y & X4'	00.394/95.052		BW
R	DEC'04		AS BUILT FOR PROJ '5R'	01.116	OSE/24N	
Q	DEC'04		AS BUILT FOR PROJ. '5V'	IN.02.002	TTP/57	
P	JUNE'02		AS BUILT FOR PROJECT '7G'	[illegible]	OME/13	
N	MAR'02		AS BUILT FOR PROJ 4P	00.802	OME/41	JAMAL
0	OCT.97		AS BUILT FOR PROJECT L4	93.609		

PDO APPROVAL

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

REV	DATE	DRAWN BY	TEAM.L.	J.ENG.	DESCRIPTION	B.I. NO	PROJ. ENG.	SIGNATURE
A	MAR.'11	KK			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/23N	
0	DEC.'10	Mrp	PT	KDA	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	IH

CHECKED — P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE : — CAD DRAWING 0 1 2 3 4 5 6 7

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : INST. ENGINEERING DATA SHEET

DESCRIPTION : COVER SHEET

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5271	000	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

Group 30 — General instrumentation

Sheet	Revision				Sheet	Revision				Sheet	Revision			
000	0	A			055					110C		N	F	
00A	0	A			056	0				110D		N	F	
00B	0	A			057	0				110E		N	F	
001	0				058	0				110F	R	T		
002	0				059	0				110G	R			
003	0				060					110H	R	T		
004	0				061	0				110J		T		
005	0				062	0	S			110K		T		
006	0				063	0				110L		T		
007	0	Q			064	0				110M	0	A		
008	0				065	0				110N	0	A		
009	0	H		U	066	0				110P	0	A		
010	0				067					111	0	S		
011	0				068	0				112	0			
012	0				069	0				113	0	T		
013	0				070	0				114	0	T		
014	0				071					115	0			
015	0	DELETED			072	0				116	0			
016	0				073	0				117	0			
017	0				074	0				118	0			
018					075	0				119	0			
019	0				076	0				120	0			
020	0				077	0				121	0			
021	0	T			078	0				122	0			
022	0				079	0				123	0			
023	0	T			080	0				124	0			
024	0				081	0				125				
025	0				082					126		D		
026	0				083	0				127		D		
027					084	0				127A		N		
028	0	S			085	0				127B		N		
029	0				086					127C		N	R	
030	0				087	0				128	0			U
031	0				088	0	S			129	0			
032	0				089	0				130	0			
033	0	T			090	0				131	0			
034					091	0				132				
035	0				092	0				133	0			
036	0				093	0				134	0	T		U
037	0				094	0				135	0	T		
038					095	0				136	0	T		
039	0				096	0				137	0			
040	0	T			097	0				138				
041	0				098	0				139	0	S		
042					099					140	0			
043	0				100	0				141	0			
044					101	0				142	0			
045	0	T			102					143				
046					103	0				144	0			
047	0				104	0				145				
048					105	0	B	T		146	0			
049	0				106		D	H		147	0	D		
050					107		D			148	0			
051	0				108		D			149				
052	0				109		D			150	0	S		
053					110		N	L	M	151				
054	0				110A		N	F		152	0			
					110B		N	F		153	0			

Sheet	Revision				Sheet	Revision				Sheet	Revision			
154					200	0				248	D	N		
155	0				201	0				248A		N	R	
156	0				202					248B		N	R	
157	0				203					248C		N	R	T
158	0				204	0	S			248D		N	R	T
159	0	T		U	205	0				248E			R	T
160	0				206	0				248F			R	T
161	0			U	207	0				248G				
162	0	H			208					248H				T
163					209	0								
164	B	D			210	0				249		L	N	T
165	B	D			211	0	S							
166	B	N		U	212	0								
166A	B	N			213	0								
166B	B	N			214									
166C	B	N	R		215	0								
166D	B	N	R		216	0	T							
166E	R	T			217	0								
166F	R	T			218	0	T							
166G		T			219									
166H		T			220									
166J		T			221	0								
166K	0	A			222	0								
167	D	B			223	0								
168	D	B	R	U	224	0	S							
169	D	B	L	T	225	0								
170	0	L			226	0								
171	0	T			227	0								
172	0	Q			228		S							
173		S			229		S							
173A		T			230	C								
173B		T			231	C	S	T						
174	0				232	C	S							
175	0				233	C	S							
176	0				234	C	T		U					
177	0				235	C	T							
178	0	S			236	C	M							
179	0				237	C	T							
180	0				238	0								
181	0				239		S							
182	0				240		S							
183	0				241		E							
184	0				242	0								
185					243	0								
186	0	DELETED			244	0								
187	0				245	0	L							
188	0				245A		L							
189	0				246	0	S	T						
190					246A			T	U					
191	0				246B			T	U					
192	0				247		D							
193					247A		F							
194	0	T												
195	0													
196	0													
197	0													
198	0													
199	0													

Group 31 — Analyser and sundry insts. / Group 32 — Flow elements, Flow instruments / Group 33 — Level instruments

Sheet	Revision				Sheet	Revision				Sheet	Revision				Sheet	Revision				Sheet	Revision			
250	0				300					350	0				400					450	0			
251	0				301					351					401					451	0			
252	0				302	0				352	0	S	U		402	0				452	0			
253	0	M			303	0				353	0	S	U		403	0				453	0			
254	0	H			304	0				354	0				404	0				454	0			
255					305	0	H			355	0				405	0				455	0			
256					306	0				356	0				406	0				456				
257					307	0	Q			357	0				407	0				457				
258					308	0	Q			358	0				408	0				458				
259					309		T			359					409	0				459				
260					310		S			360					410	0				460	0			
261	0				311					361	0				411	0				461	0			
262	0				312					362	0	C	J	S	412	0				462	0			
263					313					363	0	J	Q	S	413	0				463	0			
264					314					364					414	0				464	0			
265					315					365					415	0				465	0			
266	0				316					366	0	C	L		416	0				466	0			
267	0				317					367	0	L	M	T	417	0				467	0			
268					318					368		E			418	0	D	H	U	468	0			
269					319					369					419					469				
270					320	0				370	0	H	S		420					470	0			
271					321					371	R	S			421		T			471	0			
272					322		T			371A		T			422		T			472	0			
273					323					371B		T			423		T			473	0			
274					324					371C		T			424					474	0			
275					325										425					475	0			
276					326					372	0				426					476	0			
277					327					373					427	0	A			477				
278					328					374	0				428	0				478		D		
279					329					375	0				429	0	T			479		D		
280					330	0				376		D			430					480		D		
281					331	0				377		D			431					481		D		
282					332					378					432					482		D		
283					333		T			379					433					483			N	
284					334					380	0	S	U		434					484			N	
285					335					381	0	C	J	S	435					485	0	A		
286					336					382					436	B				486			N	
287					337					383					437	B				487			N	
288					338					384	B				438	B				488			N	
289					339					385	B				439	B				489				
290					340					386		L	T		440	B				490				
291					341					387	C	L	T		441	B				491				
292					342					388	0	S	U		442	C				492				
293					343	0	S			389	0				443	0	A			493				
294					344	0	S			390	0	C	S	U	444	C	T			494				
295					345	0	B	R		391	0	C	J	S	445	0				495	R			
					346					392	0	U			446	0				496				
					347					393	0	U			447	0				497				
					348		D			394		S			448	0				498				
					349					395	0	B			449	0				499				
										396	0	H	U											
										397	K	T												
										397A		L												
										398		N	R											
										399		U												

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG. (PDO APPROVAL)	SPEC.ENG. (PDO APPROVAL)
U	NOV.'08	ASD	AS BUILT UPTO NOV.'08	OT.08.005	OSO/22N	SK
T	APR.'05		AS BUILT FOR PROJECT '5X'	02.001		BW
S	JAN.'05		AS BUILT FOR PROJECT '5Y' & X4'	00.394/95.052		BW
R	DEC.04		AS BUILT FOR PROJ.'5R'	01.116	OSE/24N	
0	OCT.97		AS BUILT FOR PROJECT L4	93.609		

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : PRODUCTION STATION — NO. 05

DRWG.TYPE : INSTRUMENT ENGINEERING DATA SHEETS

DESCRIPTION : REVISION SHEET

SCALE : 0 1 2 3 4 5 6 7 — CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	527100	ADQ		3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

Group 34																			
[illegible]ssure [illegible]ges										Pressure instruments									
Sheet	Revision				Sheet	Revision				Sheet	Revision				Sheet	Revision			
500	0	Q			530	0				550	0	Q			581	0	S		
501	0	Q			531	0	S			551	0	S			582	0			
502	0				532	0				552	0				583	0			
503	0				533	0	E	G		553	0				584	0			
504	0	S			534	0				554	0				585	0			
505	0	A			535			B		555	0				586	0			
506	0	T			536	0	T			556	0				587	0	E		
507	0	T			537				C	557	0				587A		E		
508	0	T			538	0	E			558	0				587B		E		
509	0	T			538A	T				559	0								
510	0				538B	T				560	0				588	0	S		
511	0				539	S			C	561	0				589	0			
512	0				540	T				562	0				590	0			
513	0				541	T				563	0				591	0			
514	0				542	0				564	0				592	0	S		
515	0				542A			F		565	0				592A	T			
516	0	G	H	U	542B	T				566	0	E	G		592B	T			
517					542C	T				567	0				592C	T			
518	0	Q			543	0				568	0				592D	T			
519	0	Q			544	0				569	0	R			592E	T			
520	0	T			545	0				570		R			592F	T			
521	0	T			546	0	D			571	0				593	0	S		
522					547	0	H	M	U	572					594	0	E	P	U
523	0				547A		N			573	0				594A		F	L	
524	0	S			547B		N	R		574	0								
525	0				547C		N	R		574B		R			595	0			
526	0				548		L			574C		R			596	0			
527	0				548A		L			575	0			U	597	D	H	M	U
528			B	R	549	0				576	0				598		L	N	
529			B							577	0	T			598A		L		
										578	0	E							
										579	0	T			599	0	N	R	
										580	0				599A		N	R	
															599B		N	R	
															599D	0	A		
															599E	0	A		

Group 35																			
[illegible] temp. [illegible]nt [illegible]cators					Temperature instruments					Temperature instruments					Temperature instruments				
Sheet	Revision				Sheet	Revision				Sheet	Revision				Sheet	Revision			
600					650		S			700	0				750		S	U	
601					651	0				701	0				751	L		U	
602	0	Q	U		652	0				702	0	S			752		S	U	
603	0	U			653	0	S			703	0				753		S	U	
604	0				654	0				704	0				754		S	U	
605	0				655	0				705	0				755		S		
606	0	U			656	0				706	0				756				
607	0				657	0				707	0				757				
608	0				658	0				708	0				758				
609	0				659	0				709			T		759				
610	0				660	0				710		B			760				
611	0				661	0				711		C	T		761				
612	0				662	0				712		C	T		762				
613	0	T			663	0				713		C	T		763				
614					664	0				714	0	D	S		764				
615					665	0				715	0				765				
616	0				666	0				716	0				766				
617					667	0				717	0				767				
618					668	0				718	0				768				
619					669	0				719	0				769				
620	0	U			670	0				720	0	D			770				
621	0				671	0				721	0	D			771				
622					672	0				722	0				772				
623					673	0				723	0				773				
624					674	0				724	0				774				
625	0	U			675	0				725	0				775	0			
626	0				676	0				726	0				776				
627	0				677	0				727		T			777				
628					678	0				728		T			778				
629					679	0				729					779				
630					680	0				730					780				
636					681	0				731					781				
632					682	0				732					782				
633					683	0				733					783				
634					684	0				734					784				
635					685	0				735					785				
636					686	0				736					786				
637					687	0				737					787				
638					688	0				738					788				
639					689	0				739					789				
640					690	0	T			740					790				
641	0				691	0	T			741					798				
642					692	0	T			742					792				
643					693					743					793				
644					694					744	0				794				
645					695		R			745	0				795				
646					696	0				746					796				
647					697	0				747		N	R		797				
648					698					748					798				
649					699					749					799				

Group 36																								
Control valves																								
Sheet	Revision				Sheet	Revision				Sheet	Revision				Sheet	Revision				Sheet	Revision			
800					850	0				900	0	A												
801		R	T		859	0				901	0	A												
802			S		852	0																		
803	0				853																			
804	0				854																			
805	0	N	R		855																			
806					856																			
807	0	J			857																			
808	0	M			858																			
809					859	0	S																	
810	0	J			860	0																		
811	0	J		C	861	0																		
812	0				862	0																		
813					863	0																		
814	0	E			864	0																		
815	0				865	0																		
816	0				866	0	S																	
817	0				867	0	S																	
818	0				868	0																		
819	0			C	869	0																		
820	0	E			870	0																		
821	0	E	U		871	0																		
822					872	0		B																
823	0				873	0		H																
824					874																			
825		T			875																			
826					876		M																	
827					877																			
828	0				878	0																		
829		N			879	0																		
830	0				880	0																		
831					881	0																		
832	0				882		B																	
833					883		B																	
834	0				884		B																	
835					885		B																	
836					886		C																	
837	0	Q			887		C																	
838					888		C	T	U															
839					889		C	T																
840	0				890		N																	
841	0	Q			891		N																	
842	0				892		N	R																
843	0				893		S																	
844	0				894		S																	
845					895	0	Q	T																
846	0			U	896			T																
847	0	T			897																			
848	0	S			898																			
849	0	S			899		R																	

REV	DATE	APPROVED BY	DESCRIPTION	WBS No B.I.NO.	PROJ.ENG. (PDO APPROVAL)	SPEC.ENG. (PDO APPROVAL)
U	NOV.'08	ASD	AS BUILT UPTO NOV.'08	OT.08.005	OSO/22N	SK
T	APR.'05		AS BUILT FOR PROJECT '5X'	02.001		BW
S	JAN.'05		AS BUILT FOR PROJECT '3Y & X4'	00.394/95.052		BW
R	DEC.04		AS BUILT FOR PROJECT '5R'	01.116	OSE/24N	
Q	DEC.04		AS BUILT FOR PROJECT '6V'	IN.02.002	TTP/57	
N	MAR'02		AS BUILT FOR PROJECT 4P	00.802	OME/41	JAMAL
M	FEB'02		AS BUILT FOR PROJECT '3R'	00.818	OME/26	
0	OCT.97		AS BUILT FOR PROJECT L4	93.609		

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

REV	DATE	DRAWN BY	TEAML. (CHECKED)	J.ENG. (CHECKED)	DESCRIPTION	WBS No B.I.-NO	PROJ. ENG. (P D O APPROVAL)	SIGNATURE (P D O APPROVAL)

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE : 0 1 2 3 4 5 6 7

CAD DRAWING

AREA : NIMR

SUB AREA : PRODUCTION STATION

NO. 05

DRWG.TYPE : INSTRUMENT ENGINEERING DATA SHEETS

DESCRIPTION : INDEX SHEET

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	527100BDQ			3	A

Data sheet for M[illegible]ANEOUS INSTRUMENTS

Design book No. : page

Contr. Job No. :

Tag No. 48-	Service	FUNCTION DESCRIPTION	Requisition No.	MANUFACTURER	Model No./Type	Range or Set point	Board or Local or Rack	Remarks	Tag No. 48- / P E F S No. NIM-1-
GBS-2626A(O/C)	OPEN/CLOSE LIMIT SWITCH	48-UZV-2626A OPEN/CLOSE	RQ-5001	WESTLOCK	MAGNUM XT90		L	1)	GBS-2626A(O/C)
	FOR 48-UZV-2626A				2249-BY-00-2200-00				3637-001
GBS-2626B(O/C)	OPEN/CLOSE LIMIT SWITCH	48-UZV-2626B OPEN/CLOSE	RQ-5001	WESTLOCK	MAGNUM XT90		L	1)	GBS-2626B(O/C)
	FOR 48-UZV-2626B				2249-BY-00-2200-00				3637-001
GBS-2626C(O/C)	OPEN/CLOSE LIMIT SWITCH	48-UZV-2626C OPEN/CLOSE	RQ-5001	WESTLOCK	MAGNUM XT90		L	1)	GBS-2626C(O/C)
	FOR 48-UZV-2626C				2249-BY-00-2200-00				3637-001
GBS-2660 (O/C)	OPEN/CLOSE LIMIT SWITCH	ESD VALVE 48-UZV-2660	RQ-5001					1)	GBS-2660(O/C)
	FOR 48-UZV-2660	OPEN/CLOSE						2)	2639-001-DQ

REMARKS AND/OR DESCRIPTION OF REVISIONS

1) SUPPLIED WITH VALVE.

2) PROCUREMENT NOT BY WPAI, HENCE VENDOR INFORMATION NOT AVAILABLE.

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : INST. ENGINEERING DATA SHEET

DESCRIPTION : MISCELLANEOUS INSTRUMENTS

SCALE : — CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5271	110	MDQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

Data sheet for M[illegible]ANEOUS INSTRUMENTS

Design book No. :
Contr. Job No. :

Tag No. 48-	Service	Components	Requisition No.	Supplier	Model No./Type	Range or Set point	Board or Local or Rack	Remarks	Tag No. 48- / P E F S No. NIM-1-
HS-2510	MANUAL SELECTOR 48-LIC-111B/	SELECTOR SWITCH(DCS SOFTKEY)		FOXBORO			B		HS-2510
	48-LRCA-156A & 48-LRCA-655								5401-001
HS-2511	K-4805 AIR BLOWER START	PUSH-BUTTON(DCS SOFTKEY)		FOXBORO			B		HS-2511
		DIGITAL OUTPUT		FOXBORO			R	1)	1324-001
HS-2512	K-4805 AIR BLOWER STOP	PUSH-BUTTON(DCS SOFTKEY)		FOXBORO			B		HS-2512
		DIGITAL OUTPUT		FOXBORO			R	1)	1324-001
HS-2646	FIELD RESET FOR ESD VALVE	FIELD RESET PUSH BUTTON	RQ-5135	STAHL	EFS-1104		L		HS-2646
	48-UZV-2626A/B/C				8040/1180-001/010				3637-001
HS-2647	FIELD RESET FOR ESD VALVE	FIELD RESET PUSH BUTTON	RQ-5135	STAHL	EFS-1104		L		HS-2647
	48-UZV-2627A/B/C				8040/1180-001/010				3637-001
HS-2648	FIELD RESET FOR ESD VALVE	FIELD RESET PUSH BUTTON	RQ-5135	STAHL	EFS-1104		L		HS-2648
	48-UZV-2628A/B/C				8040/1180-001/010				3637-001
HS-2230	FIELD RESET FOR ESD VALVE	FIELD RESET PUSH BUTTON						2)	HS-2230
	48-UZV-2660								2639-001-DQ

REMARKS AND/OR DESCRIPTION OF REVISIONS

1) HARDWIRED SIGNAL TO IEB SGS (TRICONEX)
2) PROCUREMENT NOT BY WPAI, HENCE VENDOR INFORMATION NOT AVAILABLE.

AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG.TYPE : INST. ENGINEERING DATA SHEET
DESCRIPTION : MISCELLANEOUS INSTRUMENTS

SCALE : — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5271	166	KDQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

Data sheet for ...ESSURE GAUGES

Design book No. : page

Contr. Job No. :

Tag No. 48–	Service	Fluid	Gas or vapour MW / Liquid sp. gr. at work temp.	Normal temp. °C	Static pressure Kpa(a) Min.	Norm.	ΔP Kpa Max.	Components e.g. Transmitter Rec. Controller etc.	Requisition sub-group serial numbers	Manufacturer	Description Model	Type	Range Kpa(g) or ΔP kPa	Primary element Type protected non-protected	Material	Control actions P.I.D	Board or local or Aux. room	Remarks	Tag No. 48– P E F S No. NIM-1–
PG-052	P-4809 BOOSTER PUMP	WASHED OIL	0.907	40	125	–	200	GAUGE	–	OBSERVATOR	–		0-200	–	316SS	–	L		PG-052
	SUCTION																		5026-01
PG-053	P-4809 OIL EXPORT	WASHED OIL	0.907	40	7000	–	9350	GAUGE	–	OBSERVATOR	–		0-10000	–	316SS	–	L	1)	PG-053
	DISCHARGE																		5026-01
PG-054	P-4809 GEAR BOX	LUBE OIL	0.907	40	–	100	–	GAUGE	–	OBSERVATOR	–		0-200	–	316SS	–	L		PG-054
																			5026-01
PG-1535	PRESS. AT PIG RECEIVER	SLUDGE OIL	0.93-1.0	25~50	0	300	4500	GAUGE	RQ-5007				0-6000				L	2)	PG-1533
	A-48306																		2639-001-DQ
PG-1540	A-48306 PIG RECEIVER PRESS.	SLUDGE OIL	0.93-1.0	25~50	0	0	4500	GAUGE	RQ-5007				0-6000				L	2)	PG-1540
																			2639-001-DQ
PG-1541	A-48306 PIG RECEIVER PRESS.	SLUDGE OIL	0.93-1.0	25~50	0	0	4500	GAUGE	RQ-5007				0-6000				L	2)	PG-1541
																			2639-001-DQ
PG-1542	T-4807 TANK INLET	SLUDGE OIL	0.93-1.0	25~50	0	300	4500	GAUGE	RQ-5007				0-6000				L	2)	PG-1542
	LINE PRESSURE.																		2639-001-DQ
PG-1545	T-4807 TANK BYPASS	SLUDGE OIL	0.93-1.0	25~50	0	300	4500	GAUGE	RQ-5007				0-6000				L	2)	PG-1545
	LINE PRESSURE.																		3637-001-DQ
	DISCHARGE																		

Use:
2 lines for P and PI – local
3 lines for PI,PR,PC
4 lines for PIC,PRC,PA,PdI,PdR
5 lines for PIA,PRA,PdA,PdIC,PdRC
6 lines for PICA,PRCA,PdIA,PdRA
7 lines for PdICA,PdRCA

REMARKS AND/OR DESCRIPTION OF REVISIONS

1) SNUBBER
2) PROCUREMENT NOT BY WPAI, HENCE VENDOR INFORMATION NOT AVAILABLE.

AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG.TYPE : INST. ENGINEERING DATA SHEET
DESCRIPTION : PRESSURE GAUGES

SCALE : – 0 1 2 3 4 5 6 7 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5271505	DQ		3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP0405

Data sheet for
...SURE INSTRUMENTS

Design book No. :
Contr. Job No. :

Tag No. 48–	Service (GENERAL)	Fluid (GENERAL)	Gas or vapour MW / Liquid sp. gr./density at work temp.	Normal temp. °C	Static pressure Kpa(a) Min.	Static pressure Kpa(a) Norm.	ΔP Kpa Max.	Components e.g. Transmitter Rec. Controller etc.	Requisition sub-group serial numbers	Manufacturer	Description Model	Description Type	Range Kpa(g) or ΔP kPa	Primary element Type protected non-protected	Primary element Material	Control actions P.I.D	Board or local or Aux. room	Remarks	Tag No. 48– / P E F S No. NIM-1–
PDIZA-1523	DP ACROSS ESD VALVE	SLUDGE OIL	0.93-1.0	25~50	0	10	20	ΔP TRANSMITTER	RQ				0-600	dp CELL				1)	PDIZA-1523
	48-UZV-2660								5005										2639-001-DQ

NEW SHEET

Use:
2 lines for P and PI – local
3 lines for PI,PR,PC
4 lines for PIC,PRC,PA,PdI,PdR
5 lines for PIA,PRA,PdA,PdIC,PdRC
6 lines for PICA,PRCA,PdIA,PdRA
7 lines for PdICA,PdRCA

REMARKS AND/OR DESCRIPTION OF REVISIONS

1) PROCUREMENT NOT BY WPAI, HENCE VENDOR INFORMATION NOT AVAILABLE.

AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG.TYPE : INST. ENGINEERING DATA SHEET
DESCRIPTION : PRESSURE INSTRUMENTS

SCALE : – CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5271		599EDQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

Data sheet for ESD VALVES

Design book No. :

Contr. Job No. : PAIP00238

Tag No. 48-	Service	Fluid	Gas or vapour MW / Liquid sp. gr. at work temp.	Normal temp. °C	Normal pressure (upstream) kPa(g)	Pressure drop at normal cond. kPa	Flow GAS : Sm3/d LIQUID : m3/d Norm.	Flow Max.	Requisition sub-group serial numbers	Supplier	Type	Line size / Sch.	Body Size connections Material	Inner valve Type Size Material	Spring action open or close	Fins yes or no	Hand wheel yes or no	Valve position yes or no	Remarks	Tag No. 48- / P E F S No. NIM-1-
GENERAL			OPERATIN[illegible] [illegible]ITIONS						INSTRUMENT											
UZV-2626A	ESD VALVE ON TANK T-4817 INLET	WET CRUDE	0.927	30~40	120				RQ-5001	BALL VALVE -VIRGO	ALGAS 185-	40"	40"	BALL 36"	CLOSE	NO	NO	NO		UZV-2626A
			(O/C)							PNEUMATIC	9800-935-CL	300 #	FLANGED							3637-001
			1.006							ACTIVATOR-BIFFI										
			(WATER)																	
UZV-2626B	EQUALISING VALVE ACROSS	WET CRUDE	0.927	30~40	120				RQ-5001	BALL VALVE -VIRGO	RPS 120-	6"	6"	BALL 4"	CLOSE	NO	NO	NO		UZV-2626B
	48-UZV-2626A/C		(O/C)							PNEUMATIC	S2-C2-CL	300#	FLANGED							3637-001
			1.006							ACTIVATOR-BIFFI										
			(WATER)																	
UZV-2626C	ESD VALVE ON TANK T-4817 INLET	WET CRUDE	0.927	30~40	120				RQ-5001	BALL VALVE -VIRGO	ALGAS 185-	40"	40"	BALL 36"	CLOSE	NO	NO	NO		UZV-2626C
			(O/C)							PNEUMATIC	9800-935-CL	300 #	FLANGED							3637-001
			1.006							ACTIVATOR-BIFFI										
			(WATER)																	
UZV-2627A	ESD VALVE ON TANK T-4818 INLET	WET CRUDE	0.927	30~40	120				RQ-5001	BALL VALVE -VIRGO	ALGAS 185-	40"	40"	BALL 36"	CLOSE	NO	NO	NO		UZV-2627A
			(O/C)							PNEUMATIC	9800-935-CL	300 #	FLANGED							3637-001
			1.006							ACTIVATOR-BIFFI										
			(WATER)																	
UZV-26267B	EQUALISING VALVE ACROSS	WET CRUDE	0.927	30~40	120				RQ-5001	BALL VALVE -VIRGO	RPS 120-	6"	6"	BALL 4"	CLOSE	NO	NO	NO		UZV-2627B
	48-UZV-2627A/C		(O/C)							PNEUMATIC	S2-C2-CL	300#	FLANGED							3637-001
			1.006							ACTIVATOR-BIFFI										
			(WATER)																	
UZV-2627C	ESD VALVE ON TANK T-4818 INLET	WET CRUDE	0.927	30~40	120				RQ-5001	BALL VALVE -VIRGO	ALGAS 185-	40"	40"	BALL 36"	CLOSE	NO	NO	NO		UZV-2627C
			(O/C)							PNEUMATIC	9800-935-CL	300 #	FLANGED							3637-001
			1.006							ACTIVATOR-BIFFI										
			(WATER)																	
UZV-2660	SLUDGE TANK T-4807	SLUDGE OIL	0.93~1.0	25~50					RQ-5001			6"	6"		CLOSE				1)	UZV-2660
	INLET ESD											300#	FLANGED							2639-001

REMARKS AND/OR DESCRIPTION OF REVISIONS

1) PROCUREMENT NOT BY WPAI, HENCE VENDOR INFORMATION NOT AVAILABLE.

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : INST. ENGINEERING DATA SHEET

DESCRIPTION : ESD VALVES

SCALE : — 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG NO	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
	NIM	5	5271	900	DQ	3	A

LIST OF ALARM AND TRIP SETTINGS

THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJECT 'DQ' WBS No.NIM.IN.09.011

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	MAR.'11	KK			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/23N	
0	DEC.'10	Mrp	PT	KDA	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	NH

15/4/2011

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

AREA : NIMR

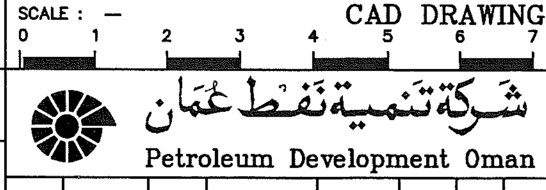
SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : LIST OF ALARM & TRIP SETTINGS

DESCRIPTION : COVER SHEET

SCALE : — CAD DRAWING

0 1 2 3 4 5 6 7



DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4744	001	DQ	4	A



WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

DESCRIPTION	SHEET	REV 0	REV A	REV B	REV C	REV D	REV E	REV F	REV G
COVER SHEET	001	DEC.'10	MAR.'11						
REVISION / INDEX SHEET	002	DEC.'10	MAR.'11						
SPARE	003								
SPARE	004								
PRESSURE INSTRUMENTS	005	DEC.'10	MAR.'11						
SPARE	006								
SPARE	007								
LEVEL INSTRUMENTS	008	DEC.'10	MAR.'11						
SPARE	009								
SPARE	010								
TEMPERATURE INSTRUMENTS	011	DEC.'10	MAR.'11						
SPARE	012								
SPARE	013								
SPARE	014								
MISCELLANEOUS	015	DEC.'10	MAR.'11						
	016								
	017								
	018								
	019								
	020								
	021								
	022								
	023								
	024								
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	037								
	038								
	039								
	040								

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT NO. 05

DRWG.TYPE : LIST OF ALARM & TRIP SETTINGS

DESCRIPTION : REVISION / INDEX SHEET

SCALE : — CAD DRAWING

0 1 2 3 4 5 6 7

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4744	002	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

TAG NO. UNIT: 48–	SERVICE	TRANSMITTER RANGE PROCESS UNIT	SWITCH SETTING		ADJ. H/L/ HH/LL
			PROCESS UNITS	TRANSMISSION SYSTEM UNITS	
PDIA–1520	DP ACROSS FILTER S–48362	0–200 kPa	50 kPa	8 mA	H
PDIA–1521	DP ACROSS FILTER S–48363	0–200 kPa	50 kPa	8 mA	H
PIZA–1516	PIPE LINE PRESSURE	0–6000 kPag	4500 kPag 4400 kPag	16 mA 15.73 mA	HH H

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : LIST OF ALARM & TRIP SETTINGS

DESCRIPTION : PRESSURE INSTRUMENTS

SCALE : 0 1 2 3 4 5 6 7 — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4744	005	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

TAG NO. UNIT: 48–	SERVICE	TRANSMITTER RANGE PROCESS UNIT	SWITCH SETTING PROCESS UNITS	SWITCH SETTING TRANSMISSION SYSTEM UNITS	ADJ. H/L/ HH/LL
LIA–1447	SLUDGE PIT A–48307	0–2200 mm	2000 mm 850 mm	18.54 mA 10.18 mA	H/L
LIZA–1448	SLUDGE PIT A–48307	0–2200 mm	2200 mm 650 mm	20.00 mA 8.72 mA	HH LL
LIZA–1451	SLUDGE PIT A–48308	0–2200 mm	2200 mm 650 mm	20.00 mA 8.72 mA	HH LL
LIA–1452	SLUDGE PIT A–48308	0–2200 mm	2000 mm 850 mm	18.54 mA 10.18 mA	H/L

NOTE–

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT NO. 05

DRWG.TYPE : LIST OF ALARM & TRIP SETTINGS

DESCRIPTION : LEVEL INSTRUMENTS

SCALE : 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4744	008	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

TAG NO. UNIT: 48–	SERVICE	INSTRUMENT RANGE PROCESS UNIT	SWITCH SETTING PROCESS UNITS	SETPOINT	ALARM TYPE
TIA–1468	PUMP COMMON DISCHARGE TEMPERATURE	0–100 degC	25 degC	8 mA	L

NOTE:

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : LIST OF ALARM & TRIP SETTINGS

DESCRIPTION : TEMPERATURE INSTRUMENTS

SCALE : 0 1 2 3 4 5 6 7 — CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4744	011	DQ	4	A

TAG NO. UNIT: 48–	SERVICE	TRANSMITTER RANGE PROCESS UNIT	SWITCH SETTING		ADJ. H/L/ HH/LL
			PROCESS UNITS	TRANSMISSION SYSTEM UNITS	
XZA–2342	HEAT DETECTOR PUMP P–48357	NA	107 degC	NC CONTACT	H
XZA–2343	HEAT DETECTOR PUMP P–48358	NA	107 degC	NC CONTACT	H

NOTE:

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG.TYPE : LIST OF ALARM & TRIP SETTINGS

DESCRIPTION : MISCELLANEOUS INSTRUMENTS

SCALE : — 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4744	015	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

INSTRUMENT CABLE TERMINATION DETAILS FOR EQUIPMENT/SYSTEM CABLES COVER SHEET

NOTES: –

1. E–4001 TO E–4012, E–4016 TO E–4046, E–4050 TO E–4059, E–4062 TO E–4065, E–977, E–978 & E–987 SYSTEM CABLES ASSOCIATED WITH DCS SYSTEM ONLY.
2. E–4070 TO E–4085, E–4094 TO E–4098, E–986 SYSTEM CABLES BETWEEN DCS & SGS.
3. E–4101 TO E–4180, E–4191 TO E–4199, E–976, E–979 TO E–985 SYSTEM CABLES ASSOCIATED WITH SGS SYSTEM ONLY.
4. E–4013 TO E–4015, E–4047, E–4060, E–4187 TO E–4190, E–975 SYSTEM CABLES ASSOCIATED WITH GFS SYSTEM ONLY.
5. E–4351 TO E–4353, E–4355 TO E–4358 SYSTEM CABLES BETWEEN IFB & SDE–009.
6. E–4185,E–4186 SYSTEM CABLES BETWEEN GFS & SGS.
7. E–4090 TO E–4093 SYSTEM CABLES BETWEEN GFS & DCS.

Vendor details to be provided

15/4/2011

SCOPE OF 'DQ' PROJECT
WBS NO.: NIM.IN.09.011

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	MAR.'11	KK			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/23N	
0	DEC.'10	Mrp	PT	KDA	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	IH

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

REFERENCE TO EQUIPMENT/TAG NUMBERS ARE TO BE PREFIXED BY AREA CODE	REV	DATE	APPROVED BY	DESCRIPTION	WBS No (B.I.NO.)	PDO APPROVAL PROJ.ENG.	PDO APPROVAL SPEC.ENG.
	T	JUN.'07	UMN/ASD	AS–BUILT FOR PROJECT '9W'	OT.06.001	OSE/23N	IH
	S	APR.'05		AS–BUILT FOR PROJECT 5X	02.001		BW
	R	JAN.'05		AS–BUILT FOR PROJ. 3Y&X4	00.394/95.052		BW
	Q	DEC.'04		AS BUILT FOR PROJ. '5R'	01.116	OSE/24N	
	P	DEC.'04		AS BUILT FOR PROJ. '5V'	IN.02.002	TTP/57	
	N	JUNE.02		AS BUILT FOR PROJECT '7G'	W.B.S No. C.OM.NM.DF.02.007.12100	OME/13	
	0	JUNE'97		AS BUILT FOR PROJECT 'L4'	93.609		

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA :NIMR

SUB AREA :PRODUCTION STATION NO. 05

DRWG.TYPE :I.C.T.D.

DESCRIPTION :COVER SHEET

SCALE : 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5591	001	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

DESCRIPTION	SHEET	REV Q	REV 0	REV A	REV B	REV C	REV D	REV E
COVER SHEET	001	JUNE 97	DEC.'10	MAR.'11				
REVISION / INDEX SHEET (001 – 032)	002		DEC.'10	MAR.'11				
REVISION / INDEX SHEET (033 – 064)	003							
REVISION / INDEX SHEET (065 – 096)	004							
REVISION / INDEX SHEET (096 – 128)	005		DEC.'10	MAR.'11				
REVISION / INDEX SHEET (129 – 160)	006		DEC.'10	MAR.'11				
REVISION / INDEX SHEET (161 – 192)	007							
REVISION / INDEX SHEET (193 – 224)	008							
REVISION / INDEX SHEET (225 – 256)	009							
REVISION / INDEX SHEET (257 – 288)	010							
REVISION / INDEX SHEET (288 – 320)	011							
REVISION / INDEX SHEET (321 – 351)	012							
RADIKOR BOARD INTERCONN. DETAILS	013	JUNE 97						
LEGEND SHEET-1	014							
LEGEND SHEET-2	015							
E-4001	016							
E-4002	017							
E-4003	018							
E-4004	019							
E-4005	020							
E-4006	021							
SPARE	022							
SPARE	023							
E-4009	024	JUNE 97						
E-4010	025							
E-4011	026							
E-4012	027		DEC.'10	MAR.'11				
E-4013	028							
E-4014	029							
E-4015	030							
E-4016	031							
E-4017	032							

REV	DATE	APPROVED BY	DESCRIPTION	WBS No (B.I.NO.)	PROJ.ENG.	SPEC.ENG.
T	JUN.'07	UMN/ASD	AS-BUILT FOR PROJECT '9W'	OT.06.001	OSE/23N	IH
S	APR.'05		AS-BUILT FOR PROJECT 5X	02.001		BW
R	JAN.'05		AS-BUILT FOR PROJ. 3Y&X4	00.394/95.052		BW
Q	DEC.04		AS-BUILT FOR PROJECT '5R'	01.116	OSE/24N	
P	DEC.04		AS-BUILT FOR PROJECT '5V'	IN.02.002	TTP/57	
0	JUNE'97		AS-BUILT FOR PROJECT 'L4'	93.609		

PDO APPROVAL

REFERENCE TO EQUIPMENT/TAG NUMBERS ARE TO BE PREFIXED BY AREA CODE

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA :NIMR

SUB AREA :PRODUCTION STATION NO. 05

DRWG.TYPE :I.C.T.D.

DESCRIPTION :REVISION/INDEX SHEET

SCALE : 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5591	002	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

DESCRIPTION	SHEET	REV 0	REV M	REV P	REV Q	REV T	REV O	REV A
E-4082	097	JUNE 97						
E-4083	098							
E-4084	099							
E-4085	100							
SPARE	101							
SPARE	102							
SPARE	103							
SPARE	104							
~~E-4090~~ (CANCELLED UNDER PROJ. '5R')	105	JUNE 97			DEC.'04			
E-4091	106							
E-4092	107							
E-4093	108	SEP'00	MAR'02		DEC.'04			
E-4094	109	JUNE 97				JUN.'07		
E-4095	110							
E-4096	111							
E-4097	112							
E-4098	113							
SPARE	114							
SPARE	115							
E-4101	116	JUNE 97						
E-4102	117							
E-4103	118							
E-4104	119							
E-4105	120							
E-4106	121							
E-4107	122							
E-4108	123							
E-0986	124					JUN.'07		
SPARE	125							
SPARE	126							
SPARE	127							
E-4113	128	JUNE 97		DEC' 04			DEC.'10	MAR.'11

	REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
	T	JUN.'07	UMN/ASD	AS-BUILT FOR PROJECT '9W'	OT.06.001	OSE/23N	~~IH~~
	Q	DEC'04		AS-BUILT FOR PROJECT '5R'	01.116	OSE/24N	
	P	DEC'04		AS BUILT FOR PROJ. '5V'	IN.02.002	TTP/57	
	M	MAR'02		AS BUILT FOR PROJ. 4P	00.802	OME/41	JAMAL
	O	JUNE'97		AS BUILT FOR PROJECT 'L4'	93.609		
REFERENCE TO EQUIPMENT/TAG NUMBERS ARE TO BE PREFIXED BY AREA CODE	REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PDO APPROVAL	

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

SCALE : 0 1 2 3 4 5 6 7

CAD DRAWING

AREA :NIMR

SUB AREA :PRODUCTION STATION

NO. 05

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG.TYPE :I.C.T.D.

DESCRIPTION :REVISION/INDEX SHEET

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5591	005	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

DESCRIPTION	SHEET	REV 0	REV H	REV J	REV P	REV O	REV A
E-4114	129	JUNE 97	JUNE 00	JULY'00			
E-4115	130						
E-4116	131	OCT'02			DEC'04		
E-4117	132	JUNE 97					
E-4118	133						
E-4119	134						
E-4120	135						
E-4121	136						
E-4122	137					DEC.'10	MAR.'11
E-4123	138						
SPARE	139						
SPARE	140						
SPARE	141						
SPARE	142						
E-4128	143	JUNE 97		JULY'00			
E-4129	144						
E-4130	145						
E-4131	146						
E-4132	147						
E-4133	148			JULY'00			
SPARE	149						
SPARE	150						
E-4136	151	JUNE 97		JULY'00			
E-4137	152						
E-4138	153						
E-4139	154						
E-4140	155			JULY'00			
E-4141	156						
SPARE	157						
SPARE	158						
E-4144	159	JUNE 97					
E-4145	160						

REV	DATE	DRAWN BY	CHECKED		DESCRIPTION	WBS No	PDO APPROVAL	SIGNATURE
P	DEC'04				AS BUILT FOR PROJECT '5V'	IN.02.002	TTP/57	
J	JULY'00	DVd			AS BUILT FOR PROJ. 2Z,7G & UPTO JUL'00	00.826	ONE/23	
0	JUNE 97	AJAY			AS BUILT FOR PROJECT L4	93.609		

B.I. NO

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

AREA :NIMR

SUB AREA :PRODUCTION STATION NO. 05

DRWG.TYPE :ICTD

DESCRIPTION :REVISION/INDEX SHEET

SCALE : 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5591	006	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

SYSTEM CABLE AND BOARD							CONNECTED TO
TAG NUMBER 48	NUMBER	SIZE	TML'S		FROM	TO	
GBS-791 O	E-4012	EM56/54	01	02	SDE-002	DCS-009	
GBS-791 C	E-4012	EM56/54	03	04	SDE-002	DCS-009	
GBS-792 O	E-4012	EM56/54	05	06	SDE-002	DCS-009	
GBS-792 C	E-4012	EM56/54	07	08	SDE-002	DCS-009	
GBS-793 O	E-4012	EM56/54	09	10	SDE-002	DCS-009	
GBS-793 C	E-4012	EM56/54	11	12	SDE-002	DCS-009	
GBS-794 O	E-4012	EM56/54	13	14	SDE-002	DCS-009	
GBS-794 C	E-4012	EM56/54	15	16	SDE-002	DCS-009	
SPARE			17	18			
GBS-2660(O)	E-4012	EM56/54	19	20	SDE-002	DCS-009	NOTE-1
GBS-2660(C)	E-4012	EM56/54	21	22	SDE-002	DCS-009	NOTE-1
SPARE			23	24			
SPARE			25	26			
SPARE			27	28			
SPARE			29	30			
SPARE			31	32			
SPARE			33	34			
SPARE			35	36			
SPARE			37	38			
SPARE			39	40			
SPARE			41	42			
SPARE			43	44			
SPARE			45	46			
SPARE			47	48			
SPARE			49	50			
SPARE			51	52			
SPARE			53	54			

NOTE-1 SYSTEM DETAILS AWAITED.

M3TYPE54

AREA :NIMR

SUB AREA :PRODUCTION STATION NO. 05

DRWG.TYPE :ICTD

DESCRIPTION :E-4012

SCALE : 0 1 2 3 4 5 6 7 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5591	027	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

SYSTEM CABLE AND BOARD							CONNECTED TO
TAG NUMBER 48	NUMBER	SIZE	TML'S		FROM	TO	
PZA-059	E-4113	EM56/54	01	02	SDE-002	SGS-004B	4B-7A, 5F+,5F-
PZA-060	E-4113	EM56/54	03	04	SDE-002	SGS-004B	4B-7A, 16F+,16F-
HS-472 RS	E-4113	EM56/54	05	06	SDE-002	SGS-004B	4B-6A, 22F+,22F-
HS-028 RS	E-4113	EM56/54	07	08	SDE-002	SGS-004B	4B-3A, 5F+,5F-
PZA-105	E-4113	EM56/54	09	10	SDE-002	SGS-004B	4B-7A, 8F+,8F-
PZA-106	E-4113	EM56/54	11	12	SDE-002	SGS-004B	4B-7A, 9F+,9F-
PZA-107	E-4113	EM56/54	13	14	SDE-002	SGS-004B	4B-7A, 10F+,10F-
PZA-122	E-4113	EM56/54	15	16	SDE-002	SGS-004B	4B-7A, 11F+,11F-
PZA-123	E-4113	EM56/54	17	18	SDE-002	SGS-004B	4B-1B, 19F+,19F-
P-4830/31	E-4113	EM56/54	19	20	SDE-002	SGS-004B	4B-1B, 18F+,18F-
PZA-072	E-4113	EM56/54	21	22	SDE-002	SGS-004B	E-4191-03,04
PZA-084	E-4113	EM56/54	23	24	SDE-002	SGS-004B	E-4191-05,06
PZA-086	E-4113	EM56/54	25	26	SDE-002	SGS-004B	E-4191-07,08
GBS-101 C	E-4113	EM56/54	27	28	SDE-002	SGS-004B	4B-1A, 7F+,7F-
PDZA-212	E-4113	EM56/54	29	30	SDE-002	SGS-004B	4B-7A, 3F+,3F-
HBS-129	E-4113	EM56/54	31	32	SDE-002	SGS-004B	4B-1B, 4F+4F-
US-2021 (O)	E-4113	EM56/54	33	34	SDE-002	SGS-004B	4B-2B, 1F+,1F-
US-2021 (C)	E-4113	EM56/54	35	36	SDE-002	SGS-004B	4B-10B, 10F+,10F-
SPARE			37	38			
PDIZA-1523	E-4113	EM56/54	39	40	SDE-002	SGS-004B	NOTE-1
HS-2230	E-4113	EM56/54	41	42	SDE-002	SGS-004B	NOTE-1
SPARE			43	44			
SPARE			45	46			
SPARE			47	48			
SPARE			49	50			
SPARE			51	52			
SPARE			53	54			

NOTE-1 SYSTEM DETAILS AWAITED.

AREA :NIMR		SCALE : 0 1 2 3 4 5 6 7	CAD DRAWING						
SUB AREA :PRODUCTION STATION	NO. 05	شركة تنمية نفط عمان Petroleum Development Oman							
DRWG.TYPE :ICTD		DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
DESCRIPTION :E-4113		NO	NIM	5	5591	128	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

SYSTEM CABLE AND BOARD							CONNECTED TO
TAG NUMBER 48	NUMBER	SIZE	TML'S		FROM	TO	
UZ-791	E-4122	EM30/28	01	02	SDE-002	SGS-001B	1B-3B, 8L+,8L-
UZ-792	E-4122	EM30/28	03	04	SDE-002	SGS-001B	1B-3B, 9L+,9L-
UZ-793	E-4122	EM30/28	05	06	SDE-002	SGS-001B	1B-3B, 10L+,10L-
UZ-794	E-4122	EM30/28	07	08	SDE-002	SGS-001B	1B-3B, 11L+,11L-
UZ-797	E-4122	EM30/28	09	10	SDE-002	SGS-001B	1B-3B, 13L+,13L-
PICA-083	E-4122	EM30/28	11	12	SDE-002	SGS-001B	1B-2B, 1L+,1L-
UZ-413	E-4122	EM30/28	13	14	SDE-002	SGS-001B	2B-8B, 3L+,3L-
UZ-412	E-4122	EM30/28	15	16	SDE-002	SGS-001B	2B-8B, 2L+,2L-
UZ-751	E-4122	EM30/28	17	18	SDE-002	SGS-001B	2B-8B, 10L+,10L-
UZ-433	E-4122	EM30/28	19	20	SDE-002	SGS-001B	2B-12B, 6L+,6L-
UZ-432	E-4122	EM30/28	21	22	SDE-002	SGS-001B	2B-9B, 5L+,5L-
UZ-761	E-4122	EM30/28	23	24	SDE-002	SGS-001B	2B-12B, 7L+,7L-
UZV-2660	E-4122	EM30/28	25	26	SDE-002	SGS-001B	NOTE-1
SPARE			27	28			

NOTE-1 SYSTEM DETAILS AWAITED.

M3TYPE28

AREA :NIMR		SCALE : 0 1 2 3 4 5 6 7 CAD DRAWING							
SUB AREA :PRODUCTION STATION	NO. 05	شركة تنمية نفط عمان Petroleum Development Oman							
DRWG.TYPE :ICTD		DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
DESCRIPTION :E-4122		NO	NIM	5	5591	137	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

SGS INSTRUMENT LOOP DIAGRAMS

PART-II

Vendor details to be provided

15/4/2011

SCOPE OF 'DQ' PROJECT
WBS NO.: NIM.IN.09.011

REFERENCE DRAWINGS :
1. DCS INST. LOOP DIAGRAMS : NIM-5-5594-001-3 & NIM-5-5907-001-3
2. SGS INST. LOOP DIAGRAMS PART I : NIM-5-5595-001-3
(ALL TAGS EXCEPT 'X' & 'U').

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAM.L	CHECKED J.ENG.	DESCRIPTION	B.I. NO	PROJ. ENG.	SIGNATURE
A	MAR.'11	KK			APPOVED FOR CONSTRUCTION	IN.09.011	OSE/23N	
0	DEC.'10	Mrp	PT	KDA	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	IH

P D O APPROVAL

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
M	APR.05		AS BUILT FOR PROJ. '5X'	02.001		BW
L	JAN.05		AS BUILT FOR PROJ. '3Y'	00.394		BW
K	DEC.04		AS BUILT FOR PROJ. '5X'	02.001		BW
J	MAR'02		AS BUILT PROJ.4P	00.802	OME/41	JAMAL
0	JULY 97		AS BUILT FOR PROJECT L4	93.609		

PDO APPROVAL

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

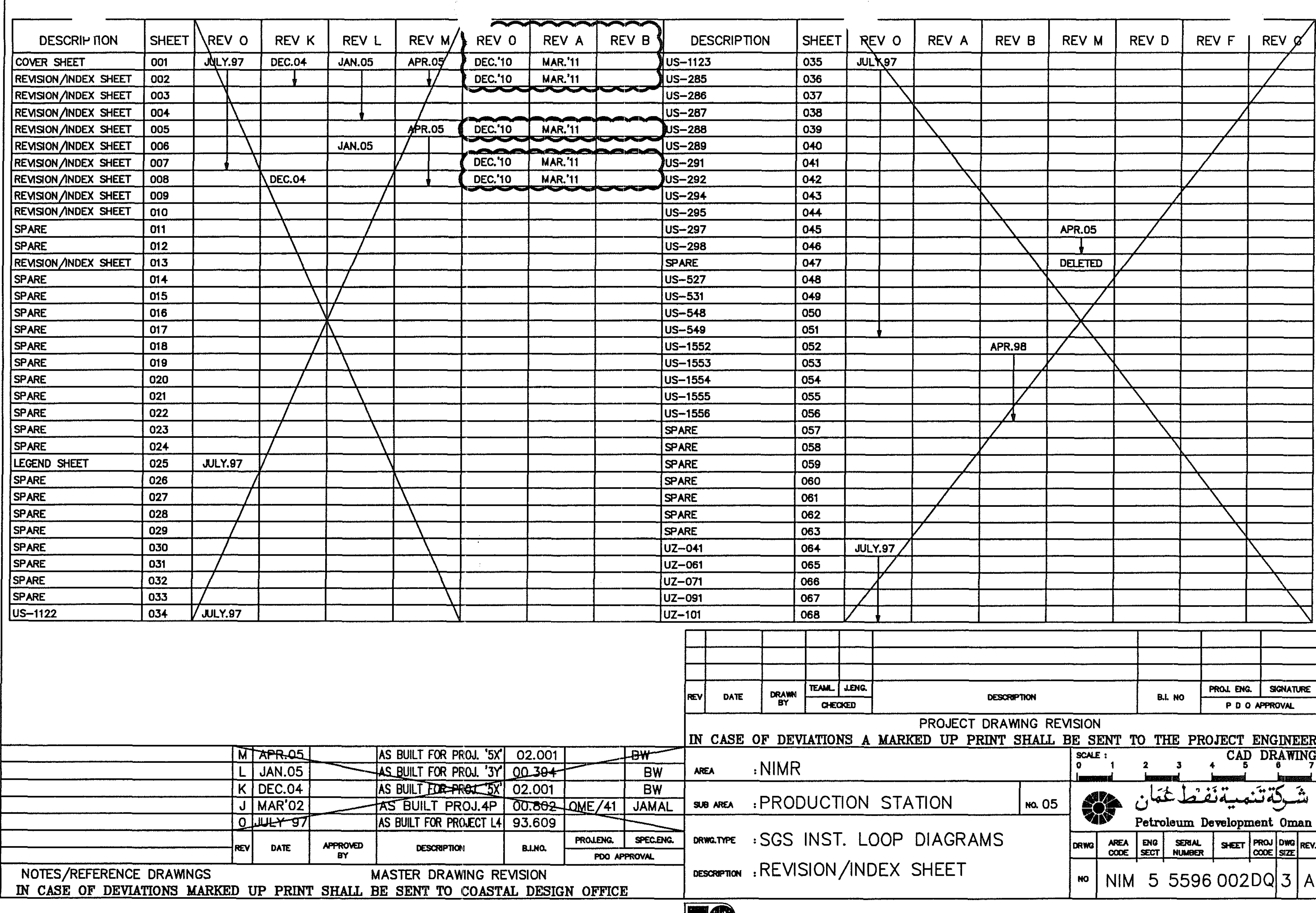
AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG.TYPE : SGS INST. LOOP DIAGRAMS
DESCRIPTION : COVER SHEET

SCALE : 0 1 2 3 4 5 6 7
CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5596	001	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



DESCRIPTION	SHEET	REV O	REV K	REV L	REV M	REV O	REV A	REV B
COVER SHEET	001	JULY.97	DEC.04	JAN.05	APR.05	DEC.'10	MAR.'11	
REVISION/INDEX SHEET	002					DEC.'10	MAR.'11	
REVISION/INDEX SHEET	003							
REVISION/INDEX SHEET	004							
REVISION/INDEX SHEET	005				APR.05	DEC.'10	MAR.'11	
REVISION/INDEX SHEET	006			JAN.05				
REVISION/INDEX SHEET	007					DEC.'10	MAR.'11	
REVISION/INDEX SHEET	008		DEC.04			DEC.'10	MAR.'11	
REVISION/INDEX SHEET	009							
REVISION/INDEX SHEET	010							
SPARE	011							
SPARE	012							
REVISION/INDEX SHEET	013							
SPARE	014							
SPARE	015							
SPARE	016							
SPARE	017							
SPARE	018							
SPARE	019							
SPARE	020							
SPARE	021							
SPARE	022							
SPARE	023							
SPARE	024							
LEGEND SHEET	025	JULY.97						
SPARE	026							
SPARE	027							
SPARE	028							
SPARE	029							
SPARE	030							
SPARE	031							
SPARE	032							
SPARE	033							
US-1122	034	JULY.97						

DESCRIPTION	SHEET	REV O	REV A	REV B	REV M	REV D	REV F	REV G
US-1123	035	JULY.97						
US-285	036							
US-286	037							
US-287	038							
US-288	039							
US-289	040							
US-291	041							
US-292	042							
US-294	043							
US-295	044							
US-297	045				APR.05			
US-298	046							
SPARE	047				DELETED			
US-527	048							
US-531	049							
US-548	050							
US-549	051							
US-1552	052			APR.98				
US-1553	053							
US-1554	054							
US-1555	055							
US-1556	056							
SPARE	057							
SPARE	058							
SPARE	059							
SPARE	060							
SPARE	061							
SPARE	062							
SPARE	063							
UZ-041	064	JULY.97						
UZ-061	065							
UZ-071	066							
UZ-091	067							
UZ-101	068							

REV	DATE	DRAWN BY	TEAML. (CHECKED)	J.ENG. (CHECKED)	DESCRIPTION	B.I. NO	PROJ. ENG. (P D O APPROVAL)	SIGNATURE (P D O APPROVAL)

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG. (PDO APPROVAL)	SPEC.ENG. (PDO APPROVAL)
M	APR.05		AS BUILT FOR PROJ. '5X'	02.001		BW
L	JAN.05		AS BUILT FOR PROJ. '3Y'	00.394		BW
K	DEC.04		AS BUILT FOR PROJ. '5X'	02.001		BW
J	MAR'02		AS BUILT PROJ.4P	00.802	OME/41	JAMAL
O	JULY 97		AS BUILT FOR PROJECT L4	93.609		

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

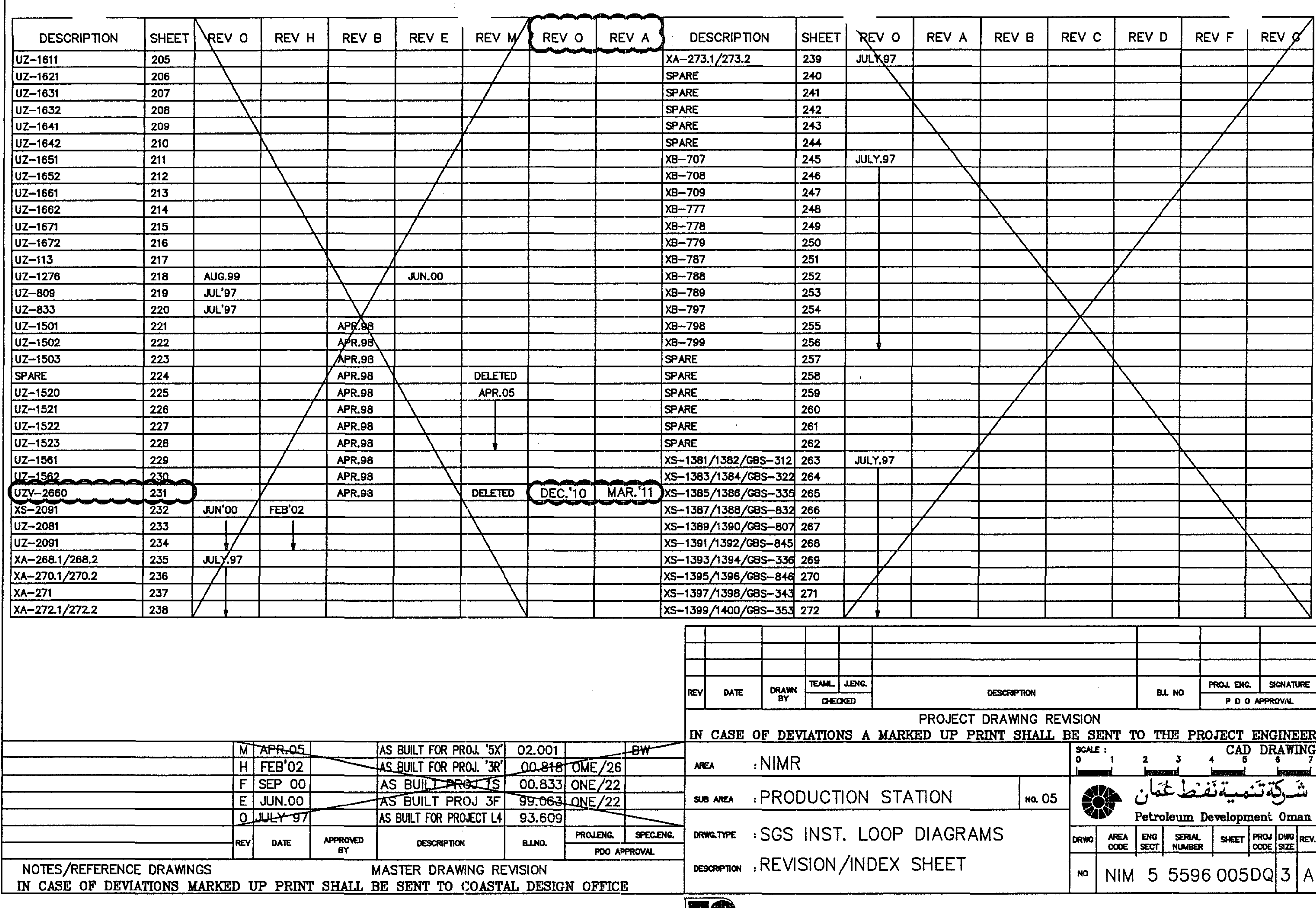
AREA : NIMR
SUB AREA : PRODUCTION STATION — NO. 05
DRWG.TYPE : SGS INST. LOOP DIAGRAMS
DESCRIPTION : REVISION/INDEX SHEET

SCALE : 0 1 2 3 4 5 6 7
CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5596	002	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



DESCRIPTION	SHEET	REV O	REV H	REV B	REV E	REV M	REV O	REV A
UZ-1611	205							
UZ-1621	206							
UZ-1631	207							
UZ-1632	208							
UZ-1641	209							
UZ-1642	210							
UZ-1651	211							
UZ-1652	212							
UZ-1661	213							
UZ-1662	214							
UZ-1671	215							
UZ-1672	216							
UZ-113	217							
UZ-1276	218	AUG.99			JUN.00			
UZ-809	219	JUL'97						
UZ-833	220	JUL'97						
UZ-1501	221			APR.98				
UZ-1502	222			APR.98				
UZ-1503	223			APR.98				
SPARE	224			APR.98		DELETED		
UZ-1520	225			APR.98		APR.05		
UZ-1521	226			APR.98				
UZ-1522	227			APR.98				
UZ-1523	228			APR.98				
UZ-1561	229			APR.98				
UZ-1562	230			APR.98				
UZV-2660	231			APR.98		DELETED	DEC.'10	MAR.'11
XS-2091	232	JUN'00	FEB'02					
UZ-2081	233							
UZ-2091	234							
XA-268.1/268.2	235	JULY.97						
XA-270.1/270.2	236							
XA-271	237							
XA-272.1/272.2	238							

DESCRIPTION	SHEET	REV O	REV A	REV B	REV C	REV D	REV F	REV G
XA-273.1/273.2	239	JULY.97						
SPARE	240							
SPARE	241							
SPARE	242							
SPARE	243							
SPARE	244							
XB-707	245	JULY.97						
XB-708	246							
XB-709	247							
XB-777	248							
XB-778	249							
XB-779	250							
XB-787	251							
XB-788	252							
XB-789	253							
XB-797	254							
XB-798	255							
XB-799	256							
SPARE	257							
SPARE	258							
SPARE	259							
SPARE	260							
SPARE	261							
SPARE	262							
XS-1381/1382/GBS-312	263	JULY.97						
XS-1383/1384/GBS-322	264							
XS-1385/1386/GBS-335	265							
XS-1387/1388/GBS-832	266							
XS-1389/1390/GBS-807	267							
XS-1391/1392/GBS-845	268							
XS-1393/1394/GBS-336	269							
XS-1395/1396/GBS-846	270							
XS-1397/1398/GBS-343	271							
XS-1399/1400/GBS-353	272							

REV	DATE	DRAWN BY	TEAM L. (CHECKED)	J.ENG. (CHECKED)	DESCRIPTION	B.I. NO	PROJ. ENG. (P D O APPROVAL)	SIGNATURE (P D O APPROVAL)

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG. (PDO APPROVAL)	SPEC.ENG. (PDO APPROVAL)
M	APR.05		AS BUILT FOR PROJ. '5X'	02.001		BW
H	FEB'02		AS BUILT FOR PROJ. '3R'	00.818	OME/26	
F	SEP 00		AS BUILT PROJ 1S	00.833	ONE/22	
E	JUN.00		AS BUILT PROJ 3F	99.063	ONE/22	
O	JULY 97		AS BUILT FOR PROJECT L4	93.609		

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

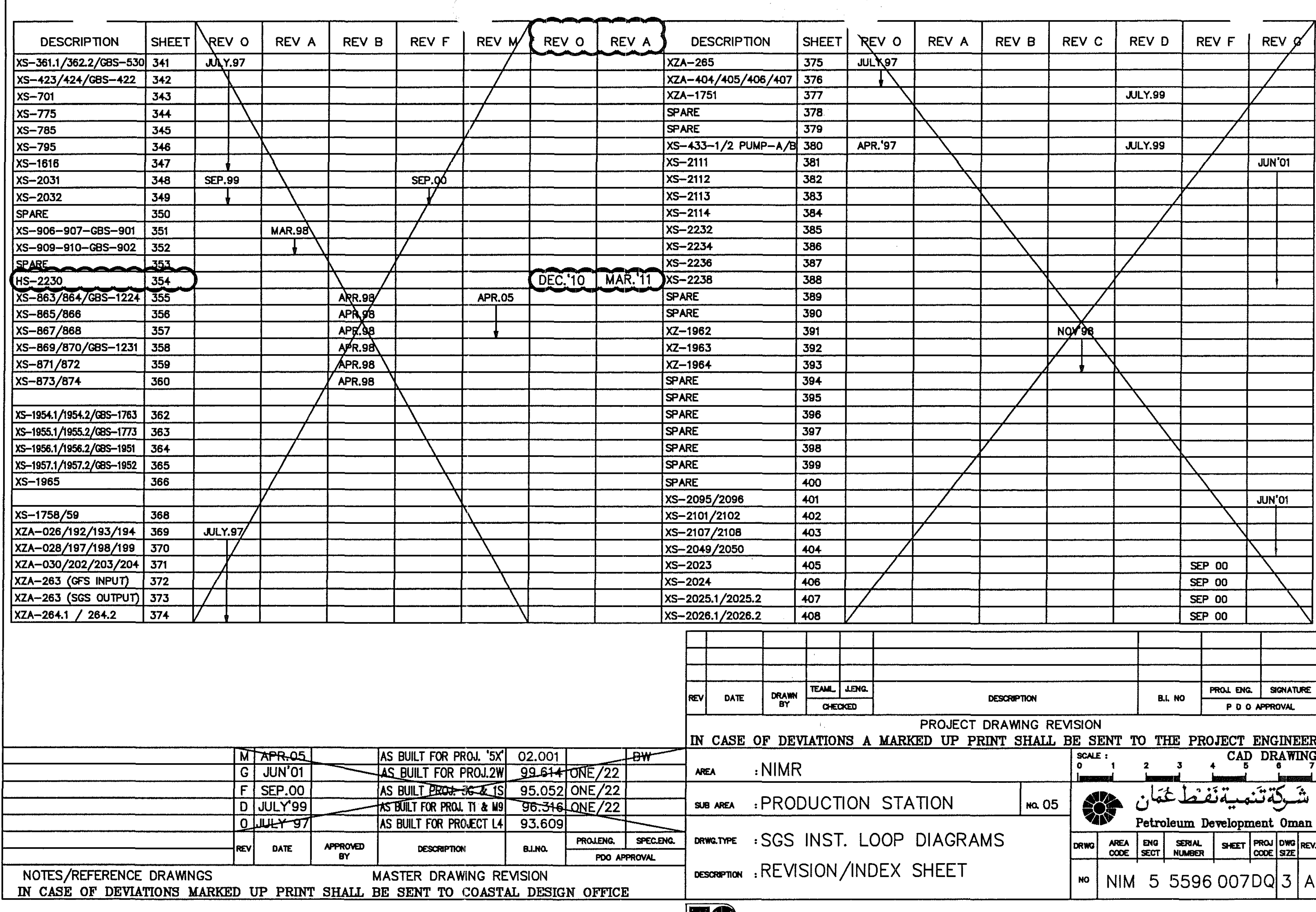
AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG.TYPE : SGS INST. LOOP DIAGRAMS
DESCRIPTION : REVISION/INDEX SHEET

SCALE : 0 1 2 3 4 5 6 7
CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5596	005	D	Q	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



DESCRIPTION	SHEET	REV O	REV A	REV B	REV F	REV M	REV O	REV A
XS-361.1/362.2/GBS-530	341	JULY.97						
XS-423/424/GBS-422	342							
XS-701	343							
XS-775	344							
XS-785	345							
XS-795	346							
XS-1616	347							
XS-2031	348	SEP.99			SEP.00			
XS-2032	349							
SPARE	350							
XS-906-907-GBS-901	351		MAR.98					
XS-909-910-GBS-902	352							
SPARE	353							
HS-2230	354						DEC.'10	MAR.'11
XS-863/864/GBS-1224	355			APR.98		APR.05		
XS-865/866	356			APR.98				
XS-867/868	357			APR.98				
XS-869/870/GBS-1231	358			APR.98				
XS-871/872	359			APR.98				
XS-873/874	360			APR.98				
XS-1954.1/1954.2/GBS-1763	362							
XS-1955.1/1955.2/GBS-1773	363							
XS-1956.1/1956.2/GBS-1951	364							
XS-1957.1/1957.2/GBS-1952	365							
XS-1965	366							
XS-1758/59	368							
XZA-026/192/193/194	369	JULY.97						
XZA-028/197/198/199	370							
XZA-030/202/203/204	371							
XZA-263 (GFS INPUT)	372							
XZA-263 (SGS OUTPUT)	373							
XZA-264.1 / 264.2	374							

DESCRIPTION	SHEET	REV O	REV A	REV B	REV C	REV D	REV F	REV G
XZA-265	375	JULY.97						
XZA-404/405/406/407	376							
XZA-1751	377					JULY.99		
SPARE	378							
SPARE	379							
XS-433-1/2 PUMP-A/B	380	APR.'97				JULY.99		
XS-2111	381							JUN'01
XS-2112	382							
XS-2113	383							
XS-2114	384							
XS-2232	385							
XS-2234	386							
XS-2236	387							
XS-2238	388							
SPARE	389							
SPARE	390							
XZ-1962	391				NOV.98			
XZ-1963	392							
XZ-1964	393							
SPARE	394							
SPARE	395							
SPARE	396							
SPARE	397							
SPARE	398							
SPARE	399							
SPARE	400							
XS-2095/2096	401							JUN'01
XS-2101/2102	402							
XS-2107/2108	403							
XS-2049/2050	404							
XS-2023	405						SEP 00	
XS-2024	406						SEP 00	
XS-2025.1/2025.2	407						SEP 00	
XS-2026.1/2026.2	408						SEP 00	

REV	DATE	DRAWN BY	TEAML. (CHECKED)	J.ENG. (CHECKED)	DESCRIPTION	B.I. NO	PROJ. ENG. (P D O APPROVAL)	SIGNATURE (P D O APPROVAL)

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG. (PDO APPROVAL)	SPEC.ENG. (PDO APPROVAL)
M	APR.05		AS BUILT FOR PROJ. '5X'	02.001		DW
G	JUN'01		AS BUILT FOR PROJ.2W	99.614	ONE/22	
F	SEP.00		AS BUILT PROJ. 3G & 1S	95.052	ONE/22	
D	JULY'99		AS BUILT FOR PROJ. T1 & M9	96.316	ONE/22	
0	JULY 97		AS BUILT FOR PROJECT L4	93.609		

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

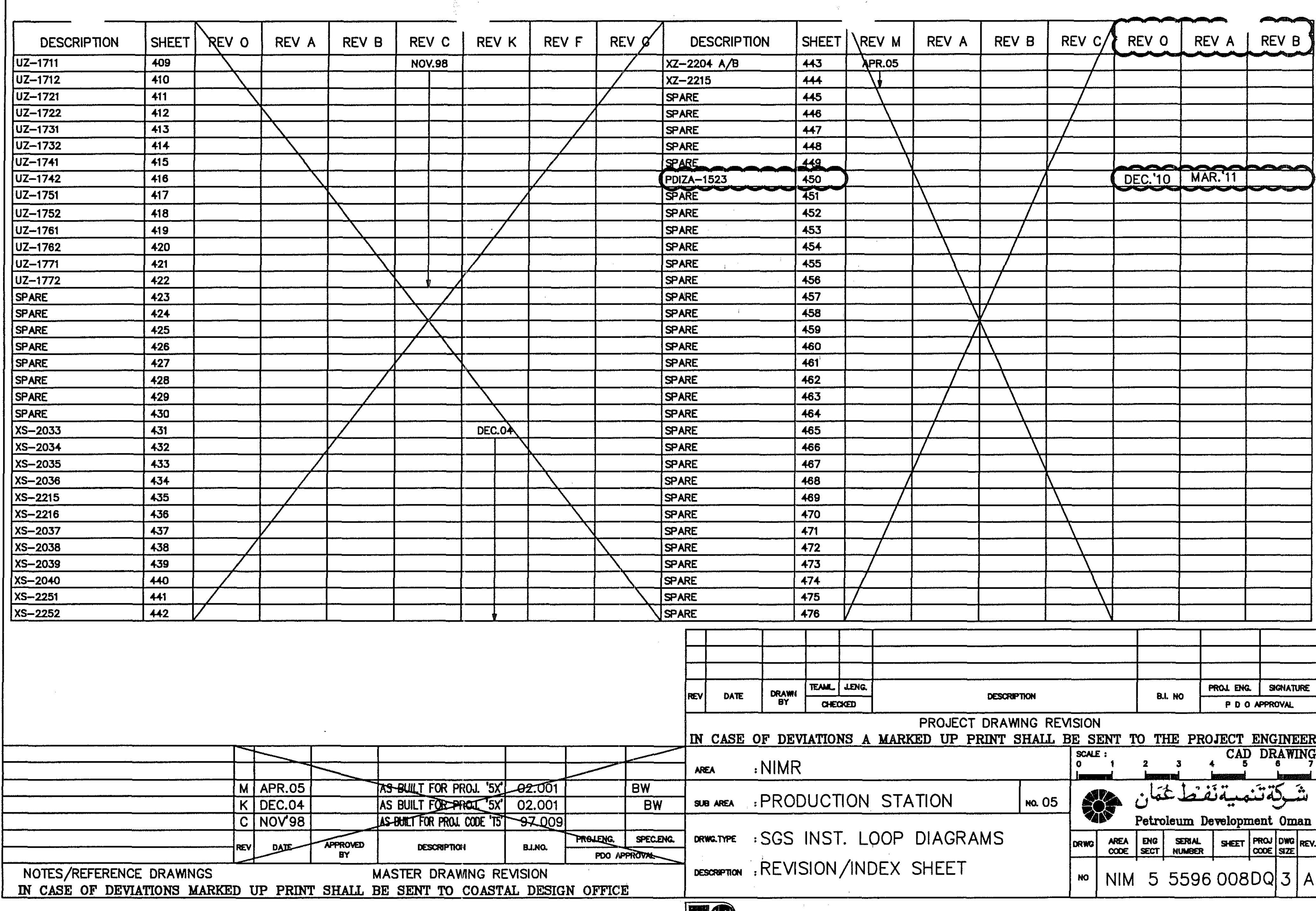
AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG.TYPE : SGS INST. LOOP DIAGRAMS
DESCRIPTION : REVISION/INDEX SHEET

SCALE : 0 1 2 3 4 5 6 7 CAD DRAWING

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5596	007	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



DESCRIPTION	SHEET	REV O	REV A	REV B	REV C	REV K	REV F	REV G
UZ-1711	409				NOV.98			
UZ-1712	410							
UZ-1721	411							
UZ-1722	412							
UZ-1731	413							
UZ-1732	414							
UZ-1741	415							
UZ-1742	416							
UZ-1751	417							
UZ-1752	418							
UZ-1761	419							
UZ-1762	420							
UZ-1771	421							
UZ-1772	422							
SPARE	423							
SPARE	424							
SPARE	425							
SPARE	426							
SPARE	427							
SPARE	428							
SPARE	429							
SPARE	430							
XS-2033	431					DEC.04		
XS-2034	432							
XS-2035	433							
XS-2036	434							
XS-2215	435							
XS-2216	436							
XS-2037	437							
XS-2038	438							
XS-2039	439							
XS-2040	440							
XS-2251	441							
XS-2252	442							

DESCRIPTION	SHEET	REV M	REV A	REV B	REV C	REV O	REV A	REV B
XZ-2204 A/B	443	APR.05						
XZ-2215	444							
SPARE	445							
SPARE	446							
SPARE	447							
SPARE	448							
SPARE	449							
PDIZA-1523	450					DEC.'10	MAR.'11	
SPARE	451							
SPARE	452							
SPARE	453							
SPARE	454							
SPARE	455							
SPARE	456							
SPARE	457							
SPARE	458							
SPARE	459							
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SPARE	464							
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SPARE	466							
SPARE	467							
SPARE	468							
SPARE	469							
SPARE	470							
SPARE	471							
SPARE	472							
SPARE	473							
SPARE	474							
SPARE	475							
SPARE	476							

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
M	APR.05		AS BUILT FOR PROJ. '5X'	02.001		BW
K	DEC.04		AS BUILT FOR PROJ. '5X'	02.001		BW
C	NOV'98		AS BUILT FOR PROJ. CODE 'T5'	97.009		

PDO APPROVAL

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

REV	DATE	DRAWN BY	TEAML. (CHECKED)	J.ENG. (CHECKED)	DESCRIPTION	B.I. NO	PROJ. ENG. (P D O APPROVAL)	SIGNATURE (P D O APPROVAL)

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

CAD DRAWING

SCALE : 0 1 2 3 4 5 6 7

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : SGS INST. LOOP DIAGRAMS

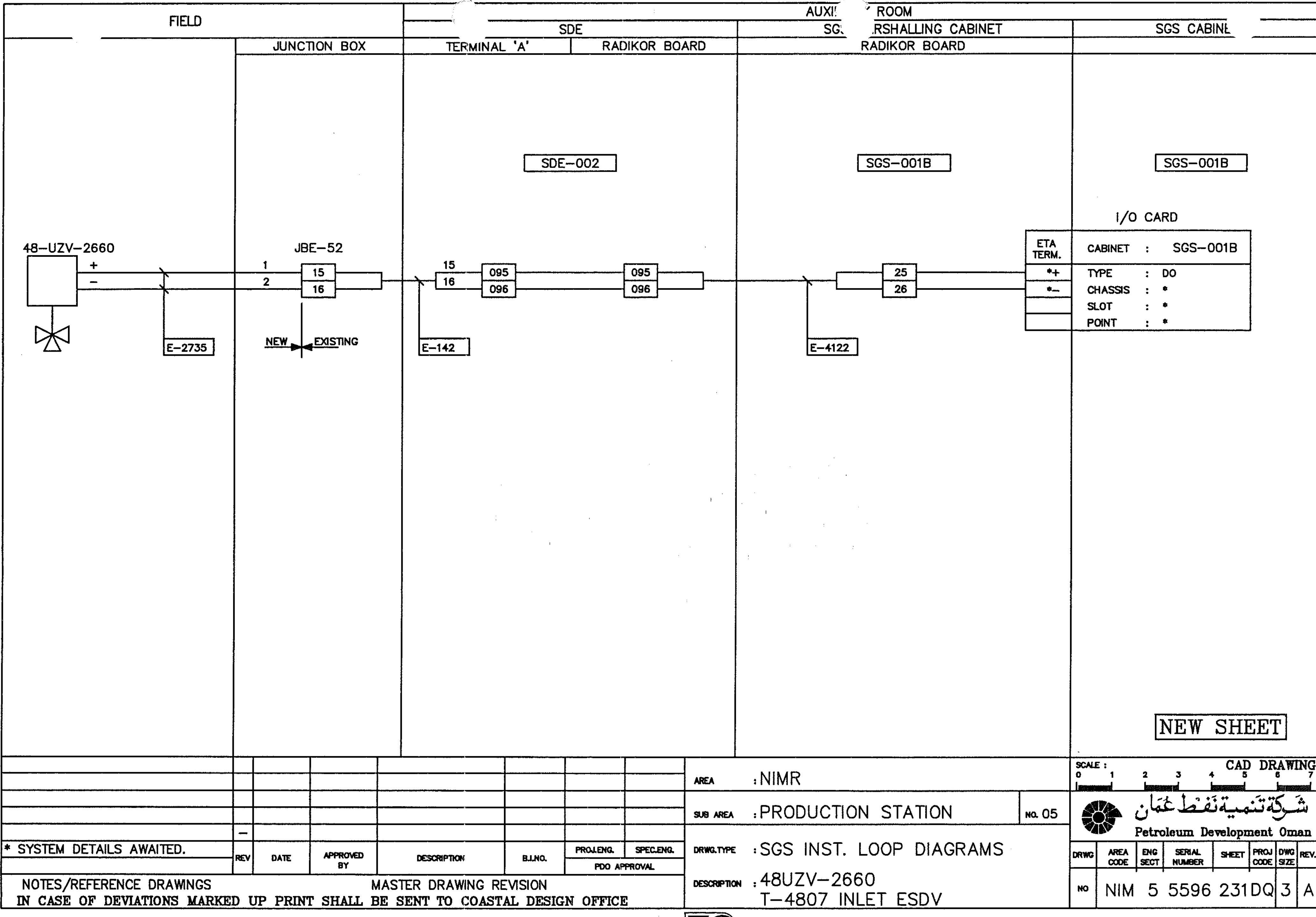
DESCRIPTION : REVISION/INDEX SHEET

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5596	008	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



* SYSTEM DETAILS AWAITED.

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
–						

PDO APPROVAL

NOTES/REFERENCE DRAWINGS — MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : PRODUCTION STATION — NO. 05

DRWG.TYPE : SGS INST. LOOP DIAGRAMS

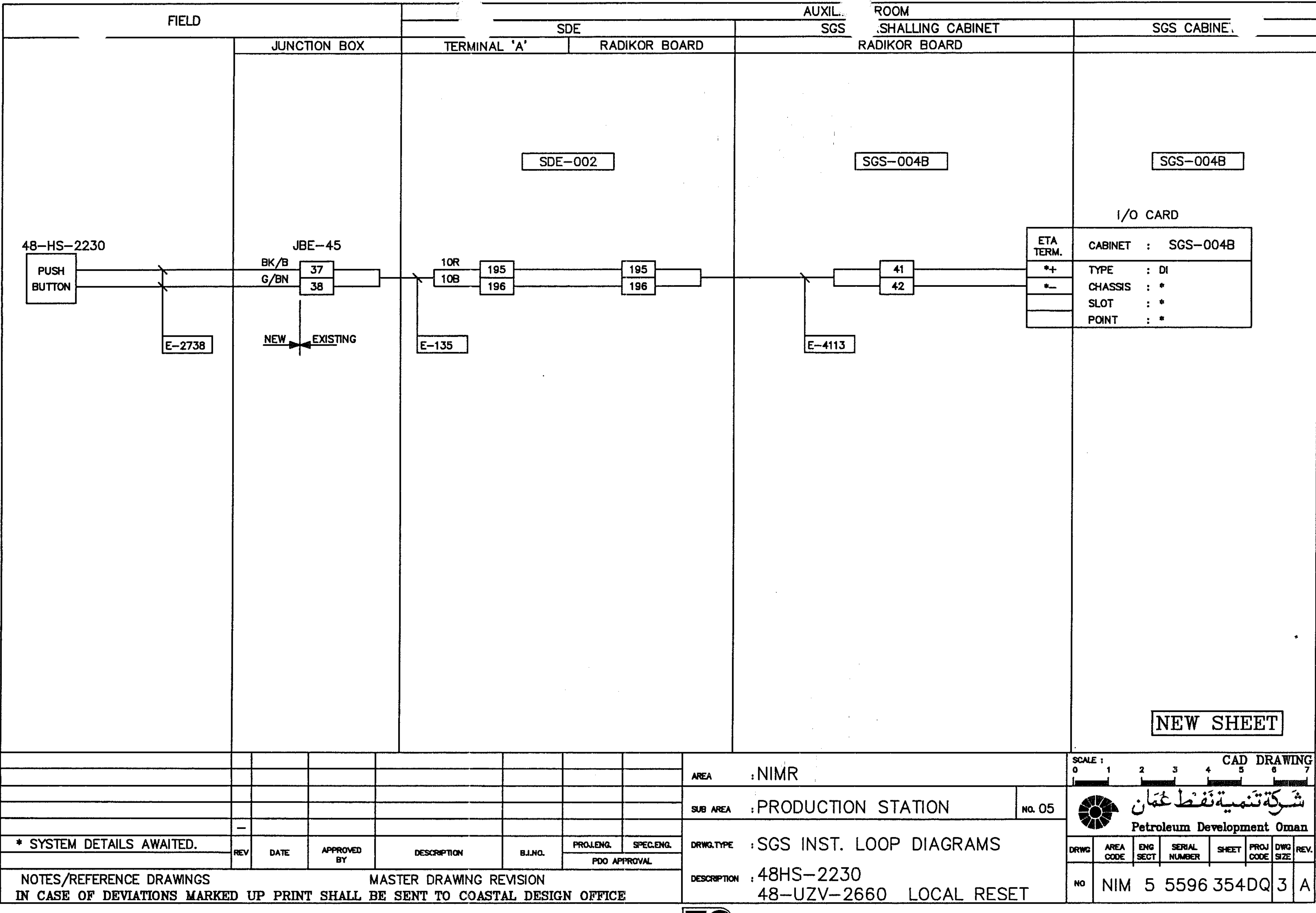
DESCRIPTION : 48UZV-2660
T-4807 INLET ESDV

SCALE : 0 1 2 3 4 5 6 7 — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5596	231	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



* SYSTEM DETAILS AWAITED.	–						
	REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
						PDO APPROVAL	

NOTES/REFERENCE DRAWINGS — MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : PRODUCTION STATION — NO. 05

DRWG.TYPE : SGS INST. LOOP DIAGRAMS

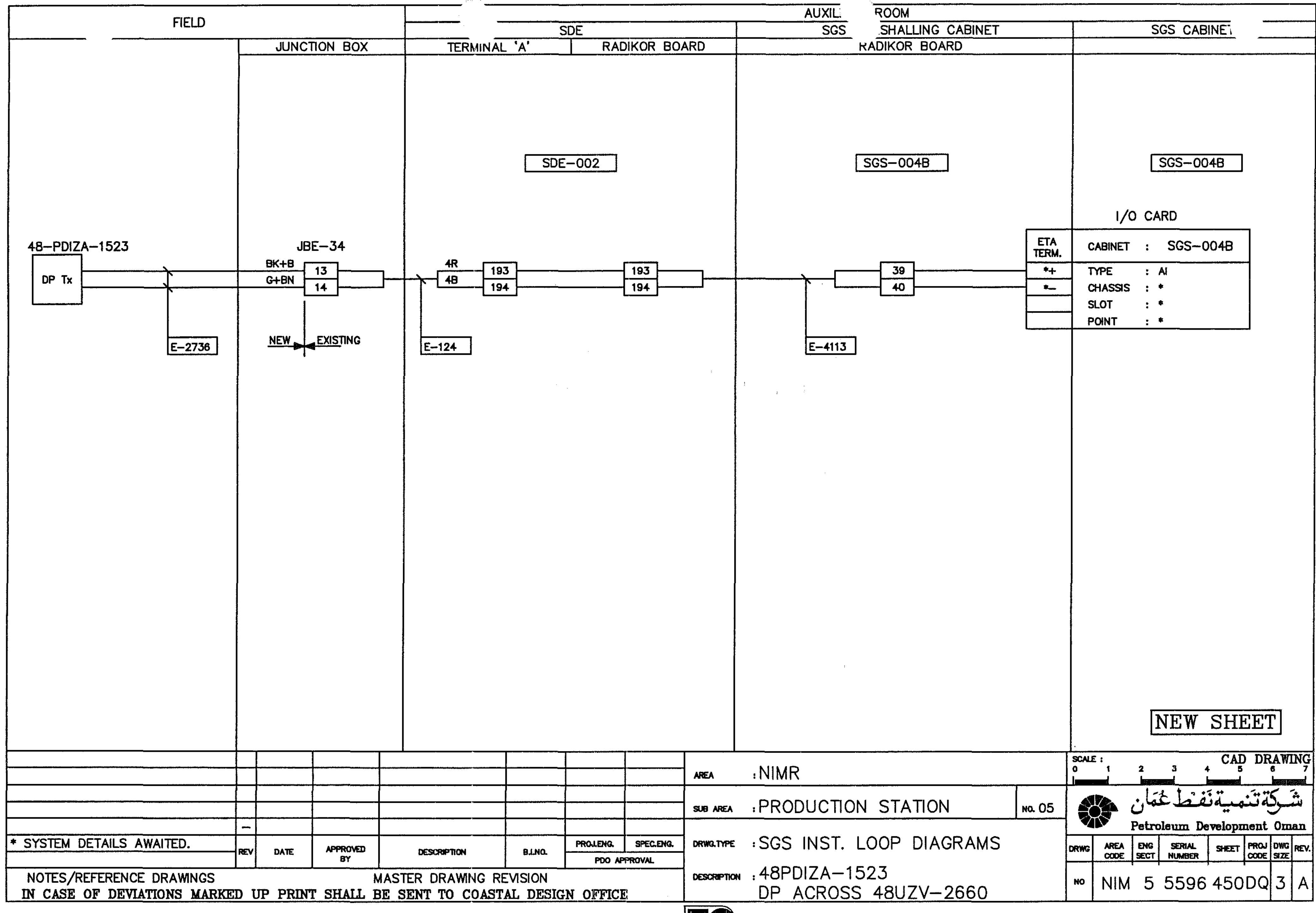
DESCRIPTION : 48HS-2230
48-UZV-2660 LOCAL RESET

SCALE : 0 1 2 3 4 5 6 7 — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5596	354	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
–						
					PDO APPROVAL	

* SYSTEM DETAILS AWAITED.

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : SGS INST. LOOP DIAGRAMS

DESCRIPTION : 48PDIZA-1523
DP ACROSS 48UZV-2660

SCALE : 0 1 2 3 4 5 6 7 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5596	450	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

SUMMARY OF INSTRUMENTATION CABLES

FOR MULTICORE CABLES REF. DRG. : NIM-5-5044
FOR SIGNAL CABLES REF. DRG. : NIM-5-9925
FOR SYSTEM CABLES REF. DRG. : NIM-5-5591 & NIM-5-5906

PLC shall be replaced with RTU

SCOPE OF 'DQ' PROJECT
WBS.NO: NIM.IN.09.011

15/4/2011

APPROVED FOR CONSTRUCTION

* LATEST REV. IS 'N' (APR.05)

REV	DATE	DRAWN BY	CHECKED TEAML.	CHECKED J.ENG.	DESCRIPTION	B.I. NO	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	MAR.'11	KK			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/23N	
0	DEC.'10	NS	PT	KSD	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	IH

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PDO APPROVAL PROJ.ENG.	PDO APPROVAL SPEC.ENG.
N	APR.'05		AS BUILT FOR PROJECT '5X'	02.001		BW
M	JAN.'05		AS BUILT FOR PROJECT '3Y & X4'	00.394/95.052		BW
L	DEC'04		AS BUILT FOR PROJ. '5R'	01.116	OSE/24N	
K	DEC.04		AS BUILT FOR PROJECT '5X'	02.001		BW
J	MAR'02		AS BUILT FOR PROJECT '4P'	00.802	OME/41	JAMAL
H	FEB'02		AS BUILT FOR PROJECT '3R'	00818	OME/26	

NOTES/REFERENCE DRAWINGS
–
–

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

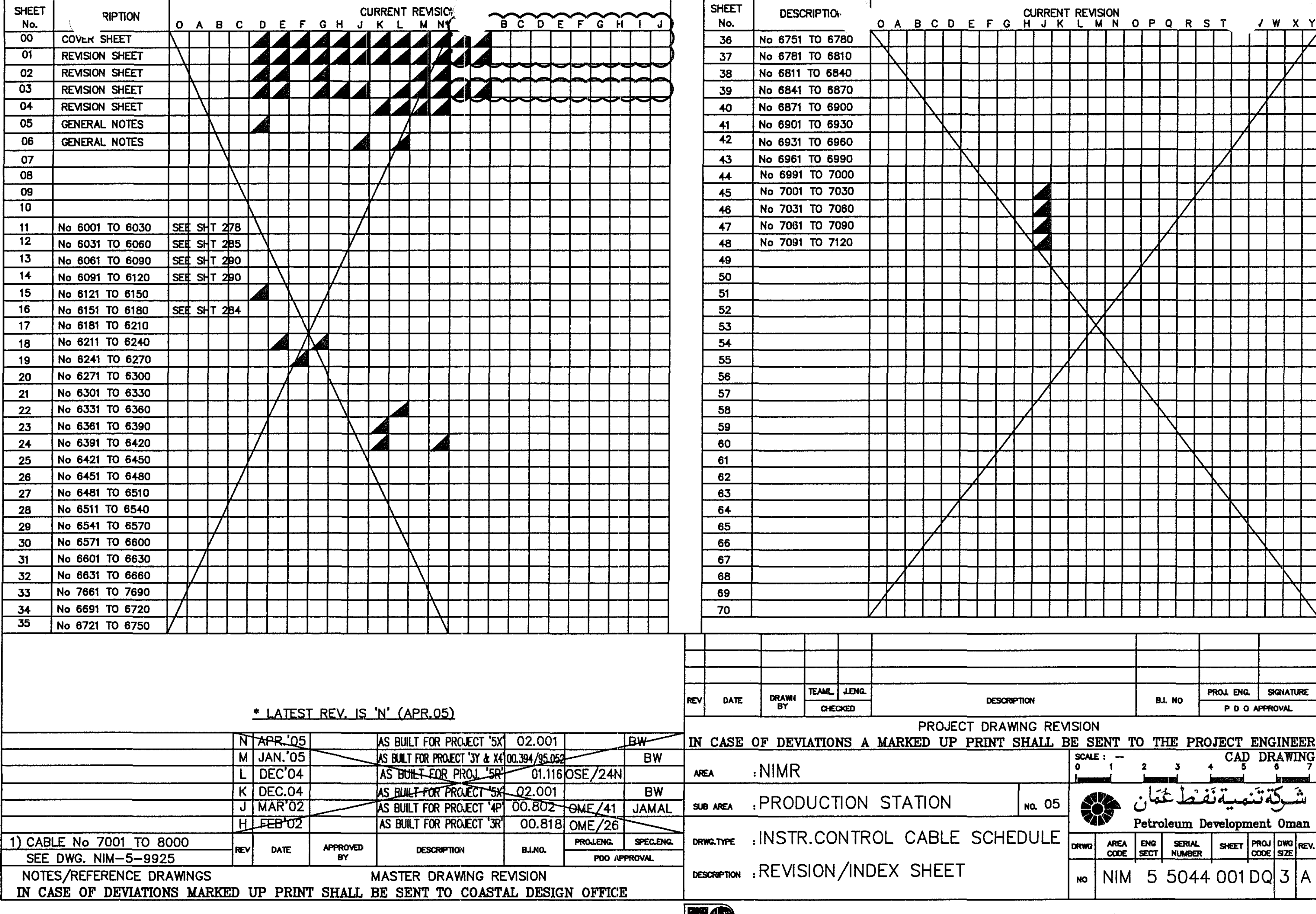
AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG.TYPE : SUMMARY OF INST. CABLES
DESCRIPTION : COVER SHEET

SCALE : –
CAD DRAWING
0 1 2 3 4 5 6 7

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5044	000	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



SHEET No.	DESCRIPTION	
00	COVER SHEET	
01	REVISION SHEET	
02	REVISION SHEET	
03	REVISION SHEET	
04	REVISION SHEET	
05	GENERAL NOTES	
06	GENERAL NOTES	
07		
08		
09		
10		
11	No 6001 TO 6030	SEE SHT 278
12	No 6031 TO 6060	SEE SHT 285
13	No 6061 TO 6090	SEE SHT 290
14	No 6091 TO 6120	SEE SHT 290
15	No 6121 TO 6150	
16	No 6151 TO 6180	SEE SHT 284
17	No 6181 TO 6210	
18	No 6211 TO 6240	
19	No 6241 TO 6270	
20	No 6271 TO 6300	
21	No 6301 TO 6330	
22	No 6331 TO 6360	
23	No 6361 TO 6390	
24	No 6391 TO 6420	
25	No 6421 TO 6450	
26	No 6451 TO 6480	
27	No 6481 TO 6510	
28	No 6511 TO 6540	
29	No 6541 TO 6570	
30	No 6571 TO 6600	
31	No 6601 TO 6630	
32	No 6631 TO 6660	
33	No 7661 TO 7690	
34	No 6691 TO 6720	
35	No 6721 TO 6750	

CURRENT REVISION: O A B C D E F G H J K L M N … B C D E F G H I J

SHEET No.	DESCRIPTION
36	No 6751 TO 6780
37	No 6781 TO 6810
38	No 6811 TO 6840
39	No 6841 TO 6870
40	No 6871 TO 6900
41	No 6901 TO 6930
42	No 6931 TO 6960
43	No 6961 TO 6990
44	No 6991 TO 7000
45	No 7001 TO 7030
46	No 7031 TO 7060
47	No 7061 TO 7090
48	No 7091 TO 7120
49	
50	
51	
52	
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68	
69	
70	

CURRENT REVISION: O A B C D E F G H J K L M N O P Q R S T V W X Y

* LATEST REV. IS 'N' (APR.05)

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
N	APR.'05		AS BUILT FOR PROJECT '5X'	02.001		BW
M	JAN.'05		AS BUILT FOR PROJECT '3Y & X4'	00.394/95.052		BW
L	DEC'04		AS BUILT FOR PROJ. '5R'	01.116	OSE/24N	
K	DEC.04		AS BUILT FOR PROJECT '5X'	02.001		BW
J	MAR'02		AS BUILT FOR PROJECT '4P'	00.802	OME/41	JAMAL
H	FEB'02		AS BUILT FOR PROJECT '3R'	00.818	OME/26	

PDO APPROVAL

1) CABLE No 7001 TO 8000
SEE DWG. NIM-5-9925

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

REV	DATE	DRAWN BY	TEAML. (CHECKED)	J.ENG. (CHECKED)	DESCRIPTION	B.I. NO	PROJ. ENG.	SIGNATURE

P D O APPROVAL

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE : — CAD DRAWING

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

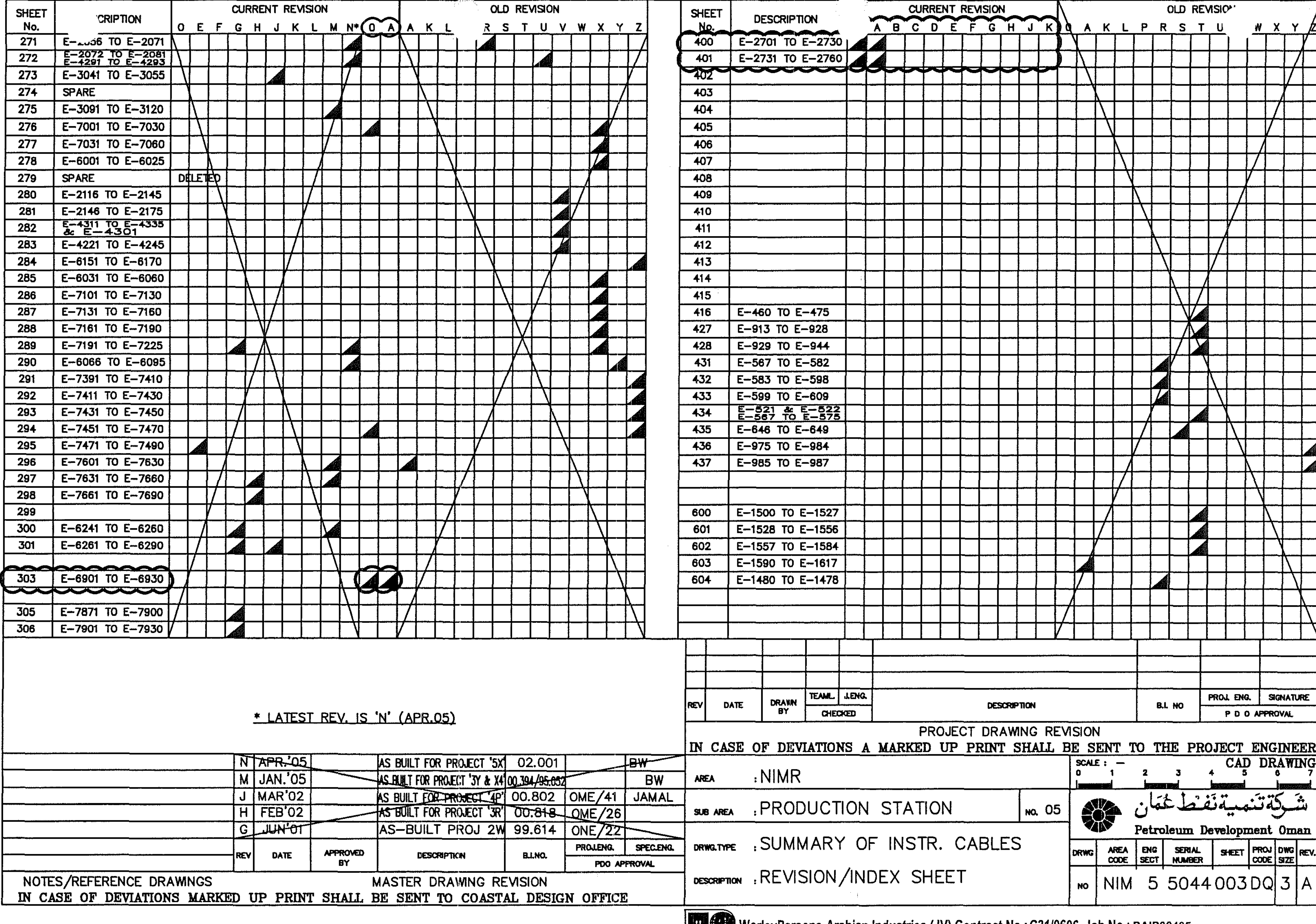
DRWG.TYPE : INSTR.CONTROL CABLE SCHEDULE

DESCRIPTION : REVISION/INDEX SHEET

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5044	001	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



SHEET No.	DESCRIPTION
271	E-2056 TO E-2071
272	E-2072 TO E-2081 E-4291 TO E-4293
273	E-3041 TO E-3055
274	SPARE
275	E-3091 TO E-3120
276	E-7001 TO E-7030
277	E-7031 TO E-7060
278	E-6001 TO E-6025
279	SPARE (DELETED)
280	E-2116 TO E-2145
281	E-2146 TO E-2175
282	E-4311 TO E-4335 & E-4301
283	E-4221 TO E-4245
284	E-6151 TO E-6170
285	E-6031 TO E-6060
286	E-7101 TO E-7130
287	E-7131 TO E-7160
288	E-7161 TO E-7190
289	E-7191 TO E-7225
290	E-6066 TO E-6095
291	E-7391 TO E-7410
292	E-7411 TO E-7430
293	E-7431 TO E-7450
294	E-7451 TO E-7470
295	E-7471 TO E-7490
296	E-7601 TO E-7630
297	E-7631 TO E-7660
298	E-7661 TO E-7690
299	
300	E-6241 TO E-6260
301	E-6261 TO E-6290
303	E-6901 TO E-6930
305	E-7871 TO E-7900
306	E-7901 TO E-7930

CURRENT REVISION: O E F G H J K L M N* O A — OLD REVISION: A K L R S T U V W X Y Z

SHEET No.	DESCRIPTION
400	E-2701 TO E-2730
401	E-2731 TO E-2760
402	
403	
404	
405	
406	
407	
408	
409	
410	
411	
412	
413	
414	
415	
416	E-460 TO E-475
427	E-913 TO E-928
428	E-929 TO E-944
431	E-567 TO E-582
432	E-583 TO E-598
433	E-599 TO E-609
434	E-521 & E-522 E-567 TO E-575
435	E-646 TO E-649
436	E-975 TO E-984
437	E-985 TO E-987
600	E-1500 TO E-1527
601	E-1528 TO E-1556
602	E-1557 TO E-1584
603	E-1590 TO E-1617
604	E-1480 TO E-1478

CURRENT REVISION: A B C D E F G H J K — OLD REVISION: O A K L P R S T U W X Y Z

* LATEST REV. IS 'N' (APR.05)

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
N	APR.'05		AS BUILT FOR PROJECT '5X'	02.001		BW
M	JAN.'05		AS BUILT FOR PROJECT '3Y & X4'	00.394/95.052		BW
J	MAR'02		AS BUILT FOR PROJECT '4P'	00.802	OME/41	JAMAL
H	FEB'02		AS BUILT FOR PROJECT '3R'	00.818	OME/26	
G	JUN'01		AS-BUILT PROJ 2W	99.614	ONE/22	

PDO APPROVAL

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

REV	DATE	DRAWN BY	TEAML.	J.ENG.	DESCRIPTION	B.I. NO	PROJ. ENG.	SIGNATURE
			CHECKED				P D O APPROVAL	

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

SCALE : — CAD DRAWING

AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG.TYPE : SUMMARY OF INSTR. CABLES
DESCRIPTION : REVISION/INDEX SHEET

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5044	003	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

REV	DESCRIPTION OF CABLE					DESCRIPTION OF RUN			CABLE REF	GLAND			REMARKS
	NUMBER 48–	SIZE mm	LENGTH M	OUTER SHEATH COLOUR	TYPE	VOLT	FROM	TO		TYPE	SIZE	REF	
	–6901												
	–6902												
	–6903												
	–6904												
	–6905												
[redacted]													
	–6906												
0	E–6907	10x2x0.8mm	150	BLACK	XLPEI–MS–SWA–PVCS	24	48–JBE–6907	48–PLC–0001					
0	E–6908	10x2x0.8mm	150	BLACK	XLPEI–MS–SWA–PVCS	24	48–JBE–6908	48–PLC–0001					
0	E–6909	10x2x0.8mm	150	BLACK	XLPEI–MS–SWA–PVCS	24	48–JBE–6909	48–PLC–0001					
0	E–6910	10x2x0.8mm	130	BLACK	XLPEI–MS–SWA–PVCS	24	48–JBE–6910	48–PLC–0001					(VENDOR JB)
[redacted]													
0	E–6911	10x2x0.8mm	130	BLACK	XLPEI–MS–SWA–PVCS	24	48–JBE–6911	48–PLC–0001					(VENDOR JB)
0	E–6912	10x2x0.8mm	130	BLACK	XLPEI–MS–SWA–PVCS	24	LOCAL CONTRL PNL	48–PLC–0001					(VENDOR PNL)
0	E–6913	10x2x0.8mm	130	BLACK	XLPEI–MS–SWA–PVCS	24	LOCAL CONTRL PNL	48–PLC–0001					(VENDOR PNL)
	E–6914												(SPARE)
	E–6915												(SPARE)
[redacted]													
	E–6916												(SPARE)
	–6917												
	–6918												
	–6919												
	–6920												
[redacted]													
	–6921												
	–6922												
	–6923												
	–6924												
	–6925												
[redacted]													
	–6926												
	–6927												
	–6928												
	–6929												
	–6930												
[redacted]													

NEW SHEET

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
					PDO APPROVAL	

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : INSTRUMENT CABLE SCHEDULE

DESCRIPTION : CABLE No. E–6901 TO E–6930

SCALE : –

CAD DRAWING

0 1 2 3 4 5 6 7

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5044	303	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

REV	DESCRIPTION OF CABLE						DESCRIPTION OF RUN		CABLE REF	GLAND			REMARKS
	NUMBER 48–	SIZE mm	LENGTH M	OUTER SHEATH COLOUR	TYPE	VOLT	FROM	TO		TYPE	SIZE	REF	
	–2701												
	–2702												
	–2703												
	–2704												
	–2705												
[redacted]													
0	E–2706	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–LIA–1447	48–JBE–6907					(NEW JB)
0	E–2707	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–LIZA–1448	48–JBE–6907					(NEW JB)
0	E–2708	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–TIA–1468	48–JBE–6907					(NEW JB)
0	E–2709	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–FI–1414	48–JBE–6907					(NEW JB)
0	E–2710	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–LIZA–1451	48–JBE–6908					(NEW JB)
[redacted]													
0	E–2711	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–LIA–1452	48–JBE–6908					(NEW JB)
0	E–2712	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–PIZA–1516	48–JBE–6908					(NEW JB)
0	E–2713	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–PDIA–1520	48–JBE–6908					(NEW JB)
0	E–2714	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–PDIA–1521	48–JBE–6908					(NEW JB)
0	E–2715	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–XZA–2342	48–JBE–6909					(NEW JB)
[redacted]													
0	E–2716	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–XZA–2343	48–JBE–6909					(NEW JB)
0	E–2717A	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–HS–2219A	48–JBE–6909					(NEW JB)
0	E–2717B	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–HS–2219B	48–JBE–6909					(NEW JB)
0	E–2718	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–HS–2658	48–JBE–6909					(NEW JB)
0	E–2719A	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–HS–2220A	48–JBE–6909					(NEW JB)
[redacted]													
0	E–2719B	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–HS–2220B	48–JBE–6909					(NEW JB)
0	E–2720	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–HS–2660	48–JBE–6909					(NEW JB)
0	E–2721	2x2.5 Sq.mm	30	BLACK	XLPEI–SWA–PVCS	24	48–XA–4106	48–PLC–0001					(STRIGHT RUN)
0	E–2722	2x2.5 Sq.mm	50	BLACK	XLPEI–SWA–PVCS	24	ELECTRICL DB	48–FI–1414					(POWER SUPPLY)
0	E–2723A	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–HS–2661A	48–JBE–6910					(VENDOR JB)
[redacted]													
0	E–2723B	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–HS–2661B	48–JBE–6910					(VENDOR JB)
0	E–2724A	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–HS–2662A	48–JBE–6910					(VENDOR JB)
0	E–2724B	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–HS–2662B	48–JBE–6910					(VENDOR JB)
0	E–2725	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–HS–2663	48–JBE–6910					(VENDOR JB)
0	E–2726	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–HS–2664	48–JBE–6910					(VENDOR JB)
[redacted]													

NEW SHEET

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
					PDO APPROVAL	

NOTES/REFERENCE DRAWINGS MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : INSTRUMENT CABLE SCHEDULE

DESCRIPTION : CABLE No. E–2701 TO E–2726

SCALE : — CAD DRAWING

0 1 2 3 4 5 6 7

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5044	400	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

REV	DESCRIPTION OF CABLE					DESCRIPTION OF RUN			CABLE REF	GLAND			REMARKS
	NUMBER 48–	SIZE mm	LENGTH M	OUTER SHEATH COLOUR	TYPE	VOLT	FROM	TO		TYPE	SIZE	REF	
0	E–2727	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–LIA–1449	48–JBE–6911					(VENDOR JB)
0	E–2728	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–LIZA–1450	48–JBE–6911					(VENDOR JB)
0	E–2729	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–PIZA–1518	48–JBE–6911					(VENDOR JB)
0	E–2730	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–PIZA–1519	48–JBE–6911					(VENDOR JB)
0	E–2731	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–PI–1522	48–JBE–6911					(VENDOR JB)
[redacted]													
0	E–2732	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–FI–1415	48–JBE–6911					(VENDOR JB)
0	E–2733	2x2x1.13mm	30	BLACK	XLPEI–MS–SWA–PVCS	24	LOCAL CONTROL	LOCAL CONTL PNL					(BY VENDOR)
0	E–2734	2x2x1.13mm	30	BLACK	XLPEI–MS–SWA–PVCS	24	LOCAL CONTROL	LOCAL CONTL PNL					(BY VENDOR)
0	E–2735	2x2.5 Sq.mm	40	BLACK	XLPEI–SWA–PVCS	24	48–UZV–2660	48–JBE–52					(EXISTING JB)
0	E–2736	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–PDIZA–1523	48–JBE–34					(EXISTING JB)
[redacted]													
0	E–2737	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–GBS–2660	48–JBE–45					(EXISTING JB)
0	E–2738	2x2x1.13mm	40	BLACK	XLPEI–MS–SWA–PVCS	24	48–HS–2230	48–JBE–45					(EXISTING JB)
	E–2739												(SPARE)
	E–2740												(SPARE)
	–2741												
[redacted]													
	–2742												
	–2743												
	–2744												
	–2745												
	–2746												
[redacted]													
	–2747												
	–2748												
	–2749												
	–2750												
	–2751												
[redacted]													
	–2752												
	–2753												
	–2754												
	–2755												
	–2756												
[redacted]													

NEW SHEET

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
					PDO APPROVAL	

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : PRODUCTION STATION NO. 05

DRWG.TYPE : INSTRUCTION CABLE SCHEDULE

DESCRIPTION : CABLE No. E–2727 TO E–2756

SCALE : – CAD DRAWING

0 1 2 3 4 5 6 7

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5044	401	DQ	3	A

DCS INSTRUMENT LOOP DIAGRAMS

system details to be provided

15/4/2011

SCOPE OF 'DQ' PROJECT
WBS NO.:NIM.IN.09.011

REFERENCE DRAWINGS :

SGS INST. LOOP DIAGRAMS PART–I	:	NIM–5–5595–A3
SGS INST. LOOP DIAGRAMS PART–II	:	NIM–5–5596–A3
INST. SIGNAL DIAGRAMS GFS	:	NIM–5–5067–A3
DCS INST. LOOP DIAGRAMS	:	NIM–5–5907

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAM.L	CHECKED J.ENG.	DESCRIPTION	WBS No B.I.-NO	P D O APPROVAL PROJ. ENG.	P D O APPROVAL SIGNATURE
A	MAR.'11	KK			APRROVED FOR CONSTRUCTION	IN.09.011	OSE/23N	
0	DEC.'10	Mrp	PT	KDA	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	IH

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

REV	DATE	APPROVED BY	DESCRIPTION	WBS No B.I.NO.	PDO APPROVAL PROJ.ENG.	PDO APPROVAL SPEC.ENG.
S	JUN.'07	UMN/ASD	AS BUILT FOR PROJECT '9W'	OT.06.001	OSE/23N	IH
R	APR.05		AS BUILT FOR PROJECT '5X'	02.001		BW
Q	JAN.05		AS BUILT FOR PROJECT '3Y & X4'	00.304/95.052		BW
P	DEC'04		AS BUILT FOR PROJECT '5R'	01.116	OSE/24N	
0	JULY 97		AS BUILT FOR PROJECT L4	93.609		

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : PRODUCTION STATION — NO. 05

DRWG.TYPE : DCS INST. LOOP DIAGRAMS

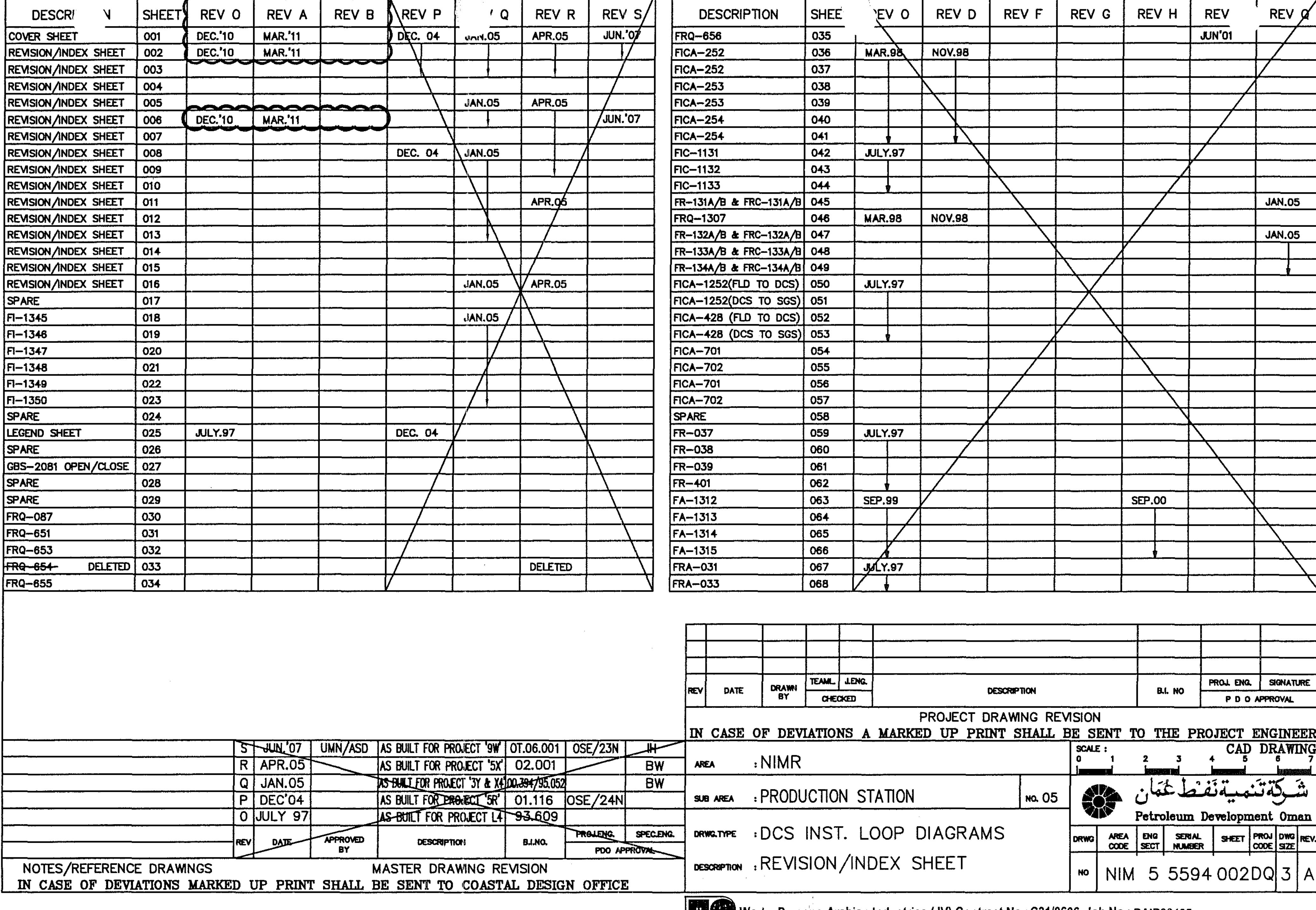
DESCRIPTION : COVER SHEET

SCALE : 0 1 2 3 4 5 6 7 — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5594	001	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



DESCRIPTION	SHEET	REV O	REV A	REV B	REV P	REV Q	REV R	REV S
COVER SHEET	001	DEC.'10	MAR.'11		DEC. 04	JAN.05	APR.05	JUN.'07
REVISION/INDEX SHEET	002	DEC.'10	MAR.'11					
REVISION/INDEX SHEET	003							
REVISION/INDEX SHEET	004							
REVISION/INDEX SHEET	005					JAN.05	APR.05	
REVISION/INDEX SHEET	006	DEC.'10	MAR.'11					JUN.'07
REVISION/INDEX SHEET	007							
REVISION/INDEX SHEET	008				DEC. 04	JAN.05		
REVISION/INDEX SHEET	009							
REVISION/INDEX SHEET	010							
REVISION/INDEX SHEET	011						APR.05	
REVISION/INDEX SHEET	012							
REVISION/INDEX SHEET	013							
REVISION/INDEX SHEET	014							
REVISION/INDEX SHEET	015							
REVISION/INDEX SHEET	016					JAN.05	APR.05	
SPARE	017							
FI-1345	018					JAN.05		
FI-1346	019							
FI-1347	020							
FI-1348	021							
FI-1349	022							
FI-1350	023							
SPARE	024							
LEGEND SHEET	025	JULY.97			DEC. 04			
SPARE	026							
GBS-2081 OPEN/CLOSE	027							
SPARE	028							
SPARE	029							
FRQ-087	030							
FRQ-651	031							
FRQ-653	032							
~~FRQ-654~~ DELETED	033						DELETED	
FRQ-655	034							

DESCRIPTION	SHEET	REV O	REV D	REV F	REV G	REV H	REV	REV Q
FRQ-656	035						JUN'01	
FICA-252	036	MAR.98	NOV.98					
FICA-252	037							
FICA-253	038							
FICA-253	039							
FICA-254	040							
FICA-254	041							
FIC-1131	042	JULY.97						
FIC-1132	043							
FIC-1133	044							
FR-131A/B & FRC-131A/B	045							JAN.05
FRQ-1307	046	MAR.98	NOV.98					
FR-132A/B & FRC-132A/B	047							JAN.05
FR-133A/B & FRC-133A/B	048							
FR-134A/B & FRC-134A/B	049							
FICA-1252(FLD TO DCS)	050	JULY.97						
FICA-1252(DCS TO SGS)	051							
FICA-428 (FLD TO DCS)	052							
FICA-428 (DCS TO SGS)	053							
FICA-701	054							
FICA-702	055							
FICA-701	056							
FICA-702	057							
SPARE	058							
FR-037	059	JULY.97						
FR-038	060							
FR-039	061							
FR-401	062							
FA-1312	063	SEP.99				SEP.00		
FA-1313	064							
FA-1314	065							
FA-1315	066							
FRA-031	067	JULY.97						
FRA-033	068							

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
S	JUN.'07	UMN/ASD	AS BUILT FOR PROJECT '9W'	OT.06.001	OSE/23N	IH
R	APR.05		AS BUILT FOR PROJECT '5X'	02.001		BW
Q	JAN.05		AS BUILT FOR PROJECT '3Y & X4'	00.394/95.052		BW
P	DEC'04		AS BUILT FOR PROJECT '5R'	01.116	OSE/24N	
O	JULY 97		AS BUILT FOR PROJECT L4	93.609		

PDO APPROVAL

NOTES/REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

REV	DATE	DRAWN BY	TEAML. CHECKED	J.ENG. CHECKED	DESCRIPTION	B.I. NO	PROJ. ENG. (P D O APPROVAL)	SIGNATURE (P D O APPROVAL)

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

AREA : NIMR

SCALE : 0 1 2 3 4 5 6 7

CAD DRAWING

SUB AREA : PRODUCTION STATION — NO. 05

شركة تنمية نفط عمان

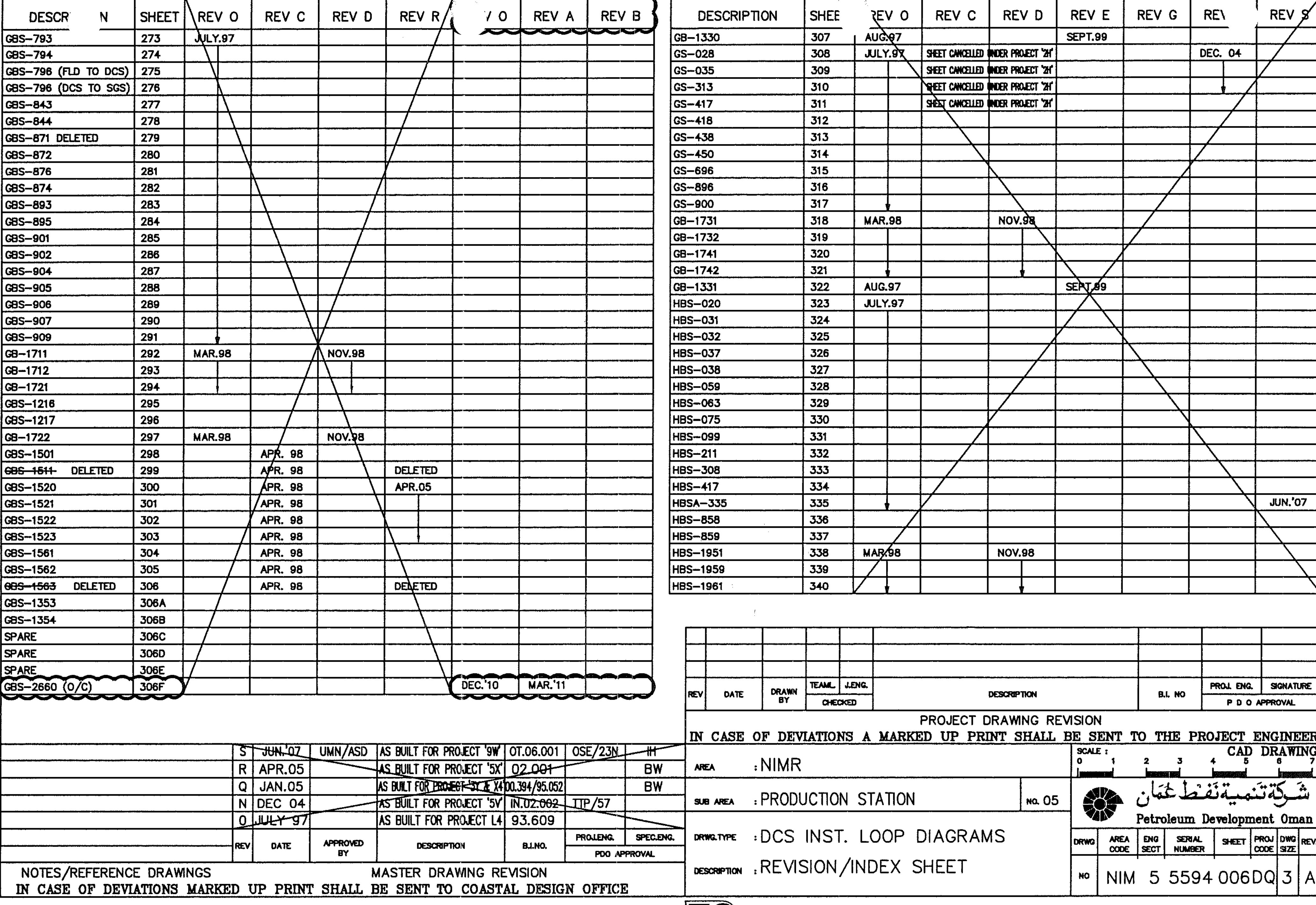
Petroleum Development Oman

DRWG.TYPE : DCS INST. LOOP DIAGRAMS

DESCRIPTION : REVISION/INDEX SHEET

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5594	002	DQ	3	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



DESCRIPTION	SHEET	REV O	REV C	REV D	REV R	REV O	REV A	REV B
GBS-793	273	JULY.97						
GBS-794	274							
GBS-796 (FLD TO DCS)	275							
GBS-796 (DCS TO SGS)	276							
GBS-843	277							
GBS-844	278							
GBS-871 DELETED	279							
GBS-872	280							
GBS-876	281							
GBS-874	282							
GBS-893	283							
GBS-895	284							
GBS-901	285							
GBS-902	286							
GBS-904	287							
GBS-905	288							
GBS-906	289							
GBS-907	290							
GBS-909	291							
GB-1711	292	MAR.98		NOV.98				
GB-1712	293							
GB-1721	294							
GBS-1216	295							
GBS-1217	296							
GB-1722	297	MAR.98		NOV.98				
GBS-1501	298		APR. 98					
~~GBS-1511~~ DELETED	299		APR. 98		DELETED			
GBS-1520	300		APR. 98		APR.05			
GBS-1521	301		APR. 98					
GBS-1522	302		APR. 98					
GBS-1523	303		APR. 98					
GBS-1561	304		APR. 98					
GBS-1562	305		APR. 98					
~~GBS-1563~~ DELETED	306		APR. 98		DELETED			
GBS-1353	306A							
GBS-1354	306B							
SPARE	306C							
SPARE	306D							
SPARE	306E							
GBS-2660 (O/C)	306F					DEC.'10	MAR.'11	

DESCRIPTION	SHEET	REV O	REV C	REV D	REV E	REV G	REV	REV S
GB-1330	307	AUG.97			SEPT.99			
GS-028	308	JULY.97	SHEET CANCELLED UNDER PROJECT '2H'				DEC. 04	
GS-035	309		SHEET CANCELLED UNDER PROJECT '2H'					
GS-313	310		SHEET CANCELLED UNDER PROJECT '2H'					
GS-417	311		SHEET CANCELLED UNDER PROJECT '2H'					
GS-418	312							
GS-438	313							
GS-450	314							
GS-696	315							
GS-896	316							
GS-900	317							
GB-1731	318	MAR.98		NOV.98				
GB-1732	319							
GB-1741	320							
GB-1742	321							
GB-1331	322	AUG.97			SEPT.99			
HBS-020	323	JULY.97						
HBS-031	324							
HBS-032	325							
HBS-037	326							
HBS-038	327							
HBS-059	328							
HBS-063	329							
HBS-075	330							
HBS-099	331							
HBS-211	332							
HBS-308	333							
HBS-417	334							
HBSA-335	335							JUN.'07
HBS-858	336							
HBS-859	337							
HBS-1951	338	MAR.98		NOV.98				
HBS-1959	339							
HBS-1961	340							

REV	DATE	DRAWN BY	TEAM.L. (CHECKED)	J.ENG. (CHECKED)	DESCRIPTION	B.I. NO	PROJ. ENG. (P D O APPROVAL)	SIGNATURE (P D O APPROVAL)

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG. (PDO APPROVAL)	SPEC.ENG. (PDO APPROVAL)
S	JUN.'07	UMN/ASD	AS BUILT FOR PROJECT '9W'	OT.06.001	OSE/23N	IH
R	APR.05		AS BUILT FOR PROJECT '5X'	02.001		BW
Q	JAN.05		AS BUILT FOR PROJECT '5Y' & X4	00.394/95.052		BW
N	DEC 04		AS BUILT FOR PROJECT '5V'	IN.02.002	TTP/57	
0	JULY 97		AS BUILT FOR PROJECT L4	93.609		

NOTES/REFERENCE DRAWINGS

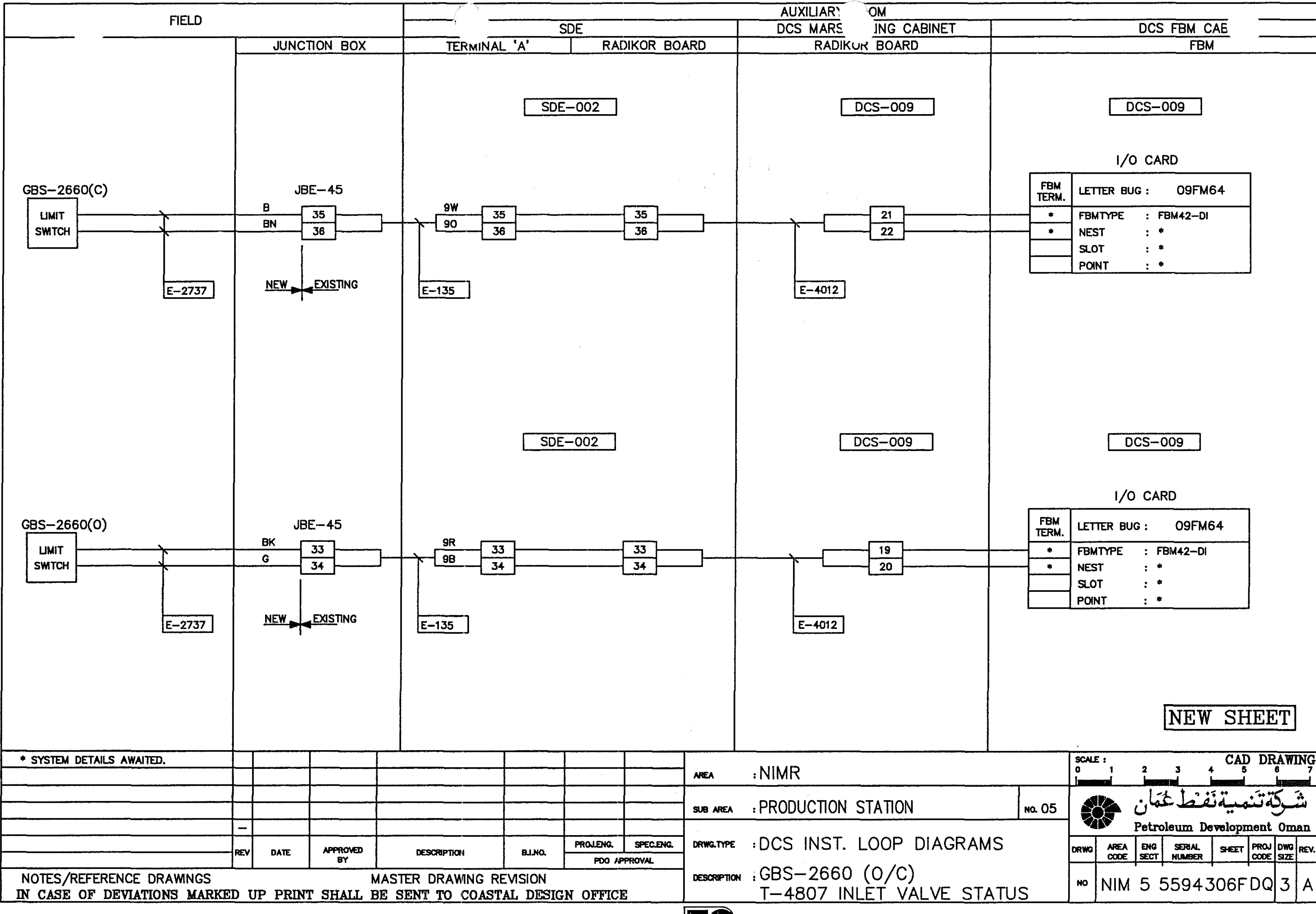
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR
SUB AREA : PRODUCTION STATION NO. 05
DRWG.TYPE : DCS INST. LOOP DIAGRAMS
DESCRIPTION : REVISION/INDEX SHEET

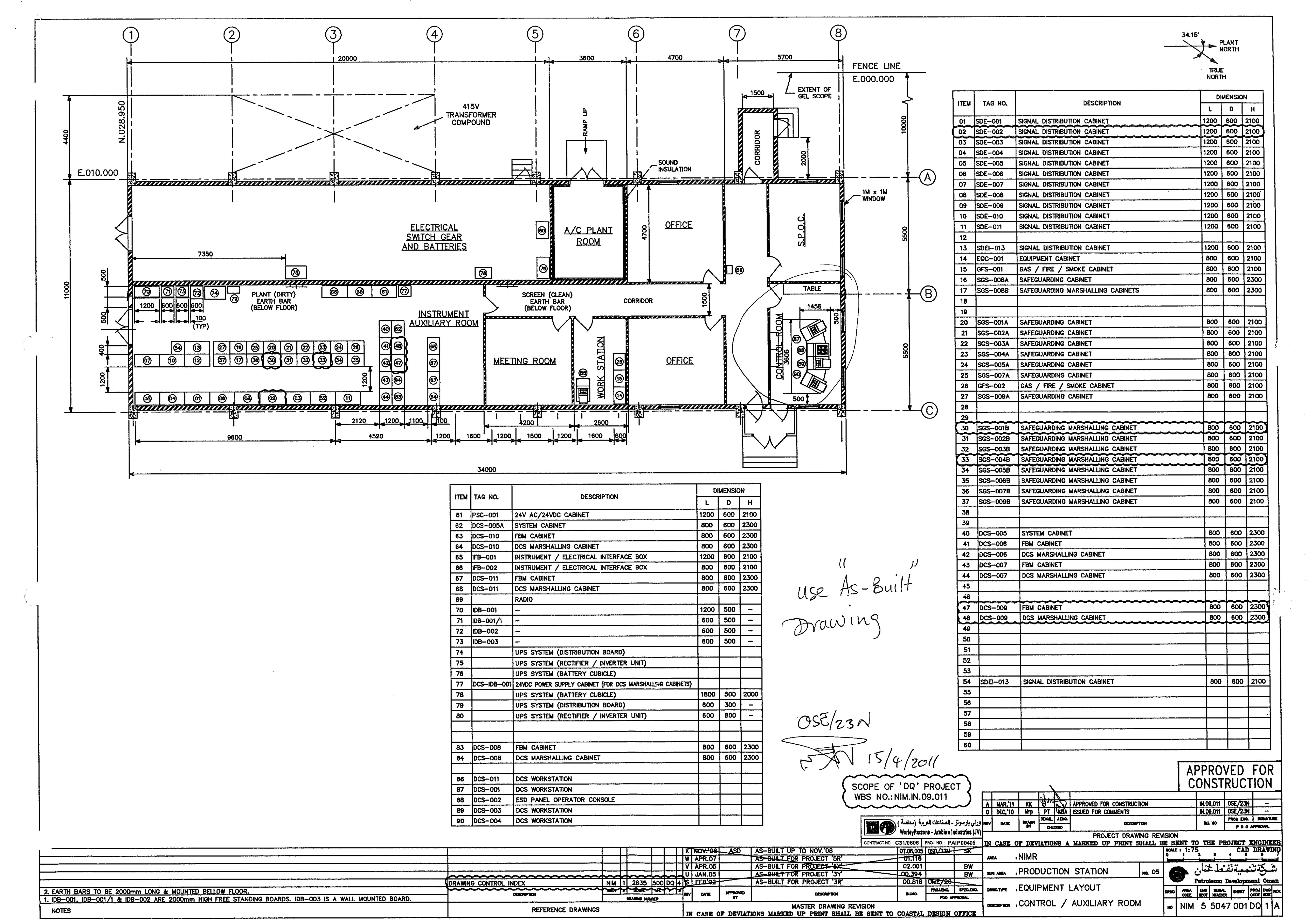
SCALE : 0 1 2 3 4 5 6 7
CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5594	006	DQ	3	A



WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



ITEM	TAG NO.	DESCRIPTION	DIMENSION L	D	H
01	SDE-001	SIGNAL DISTRIBUTION CABINET	1200	600	2100
02	SDE-002	SIGNAL DISTRIBUTION CABINET	1200	600	2100
03	SDE-003	SIGNAL DISTRIBUTION CABINET	1200	600	2100
04	SDE-004	SIGNAL DISTRIBUTION CABINET	1200	600	2100
05	SDE-005	SIGNAL DISTRIBUTION CABINET	1200	600	2100
06	SDE-006	SIGNAL DISTRIBUTION CABINET	1200	600	2100
07	SDE-007	SIGNAL DISTRIBUTION CABINET	1200	600	2100
08	SDE-008	SIGNAL DISTRIBUTION CABINET	1200	600	2100
09	SDE-009	SIGNAL DISTRIBUTION CABINET	1200	600	2100
10	SDE-010	SIGNAL DISTRIBUTION CABINET	1200	600	2100
11	SDE-011	SIGNAL DISTRIBUTION CABINET	1200	600	2100
12					
13	SDEI-013	SIGNAL DISTRIBUTION CABINET	1200	600	2100
14	EQC-001	EQUIPMENT CABINET	800	600	2100
15	GFS-001	GAS / FIRE / SMOKE CABINET	800	600	2100
16	SGS-008A	SAFEGUARDING CABINET	800	600	2300
17	SGS-008B	SAFEGUARDING MARSHALLING CABINETS	800	600	2300
18					
19					
20	SGS-001A	SAFEGUARDING CABINET	800	600	2100
21	SGS-002A	SAFEGUARDING CABINET	800	600	2100
22	SGS-003A	SAFEGUARDING CABINET	800	600	2100
23	SGS-004A	SAFEGUARDING CABINET	800	600	2100
24	SGS-005A	SAFEGUARDING CABINET	800	600	2100
25	SGS-007A	SAFEGUARDING CABINET	800	600	2100
26	GFS-002	GAS / FIRE / SMOKE CABINET	800	600	2100
27	SGS-009A	SAFEGUARDING CABINET	800	600	2100
28					
29					
30	SGS-001B	SAFEGUARDING MARSHALLING CABINET	800	600	2100
31	SGS-002B	SAFEGUARDING MARSHALLING CABINET	800	600	2100
32	SGS-003B	SAFEGUARDING MARSHALLING CABINET	800	600	2100
33	SGS-004B	SAFEGUARDING MARSHALLING CABINET	800	600	2100
34	SGS-005B	SAFEGUARDING MARSHALLING CABINET	800	600	2100
35	SGS-006B	SAFEGUARDING MARSHALLING CABINET	800	600	2100
36	SGS-007B	SAFEGUARDING MARSHALLING CABINET	800	600	2100
37	SGS-009B	SAFEGUARDING MARSHALLING CABINET	800	600	2100
38					
39					
40	DCS-005	SYSTEM CABINET	800	600	2300
41	DCS-006	FBM CABINET	800	600	2300
42	DCS-006	DCS MARSHALLING CABINET	800	600	2300
43	DCS-007	FBM CABINET	800	600	2300
44	DCS-007	DCS MARSHALLING CABINET	800	600	2300
45					
46					
47	DCS-009	FBM CABINET	800	600	2300
48	DCS-009	DCS MARSHALLING CABINET	800	600	2300
49					
50					
51					
52					
53					
54	SDEI-013	SIGNAL DISTRIBUTION CABINET	800	600	2100
55					
56					
57					
58					
59					
60					

ITEM	TAG NO.	DESCRIPTION	DIMENSION L	D	H
61	PSC-001	24V AC/24VDC CABINET	1200	600	2100
62	DCS-005A	SYSTEM CABINET	800	600	2300
63	DCS-010	FBM CABINET	800	600	2300
64	DCS-010	DCS MARSHALLING CABINET	800	600	2300
65	IFB-001	INSTRUMENT / ELECTRICAL INTERFACE BOX	1200	600	2100
66	IFB-002	INSTRUMENT / ELECTRICAL INTERFACE BOX	800	600	2100
67	DCS-011	FBM CABINET	800	600	2300
68	DCS-011	DCS MARSHALLING CABINET	800	600	2300
69		RADIO			
70	IDB-001	–	1200	500	–
71	IDB-001/1	–	600	500	–
72	IDB-002	–	600	500	–
73	IDB-003	–	600	500	–
74		UPS SYSTEM (DISTRIBUTION BOARD)			
75		UPS SYSTEM (RECTIFIER / INVERTER UNIT)			
76		UPS SYSTEM (BATTERY CUBICLE)			
77	DCS-IDB-001	24VDC POWER SUPPLY CABINET (FOR DCS MARSHALLING CABINETS)			
78		UPS SYSTEM (BATTERY CUBICLE)	1800	500	2000
79		UPS SYSTEM (DISTRIBUTION BOARD)	600	300	–
80		UPS SYSTEM (RECTIFIER / INVERTER UNIT)	600	800	–
83	DCS-008	FBM CABINET	800	600	2300
84	DCS-008	DCS MARSHALLING CABINET	800	600	2300
86	DCS-011	DCS WORKSTATION			
87	DCS-001	DCS WORKSTATION			
88	DCS-002	ESD PANEL OPERATOR CONSOLE			
89	DCS-003	DCS WORKSTATION			
90	DCS-004	DCS WORKSTATION			

REV	DATE	DRAWN BY	CHECKED TEAML	J.ENG.	DESCRIPTION	B.I. NO	PROJ. ENG.	SIGNATURE
A	MAR,'11	KK			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/23N	–
0	DEC,'10	Mrp	PT	KDA	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	–

PDO APPROVAL

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
X	NOV.'08	ASD	AS-BUILT UP TO NOV.'08	0T.08.005	OSO/22N	SK
W	APR.07		AS-BUILT FOR PROJECT '5R'	01.116		
V	APR.05		AS-BUILT FOR PROJECT '5X'	02.001		BW
U	JAN.05		AS-BUILT FOR PROJECT '3Y'	00.394		BW
S	FEB'02		AS-BUILT FOR PROJECT '3R'	00.818	OME/26	

PDO APPROVAL

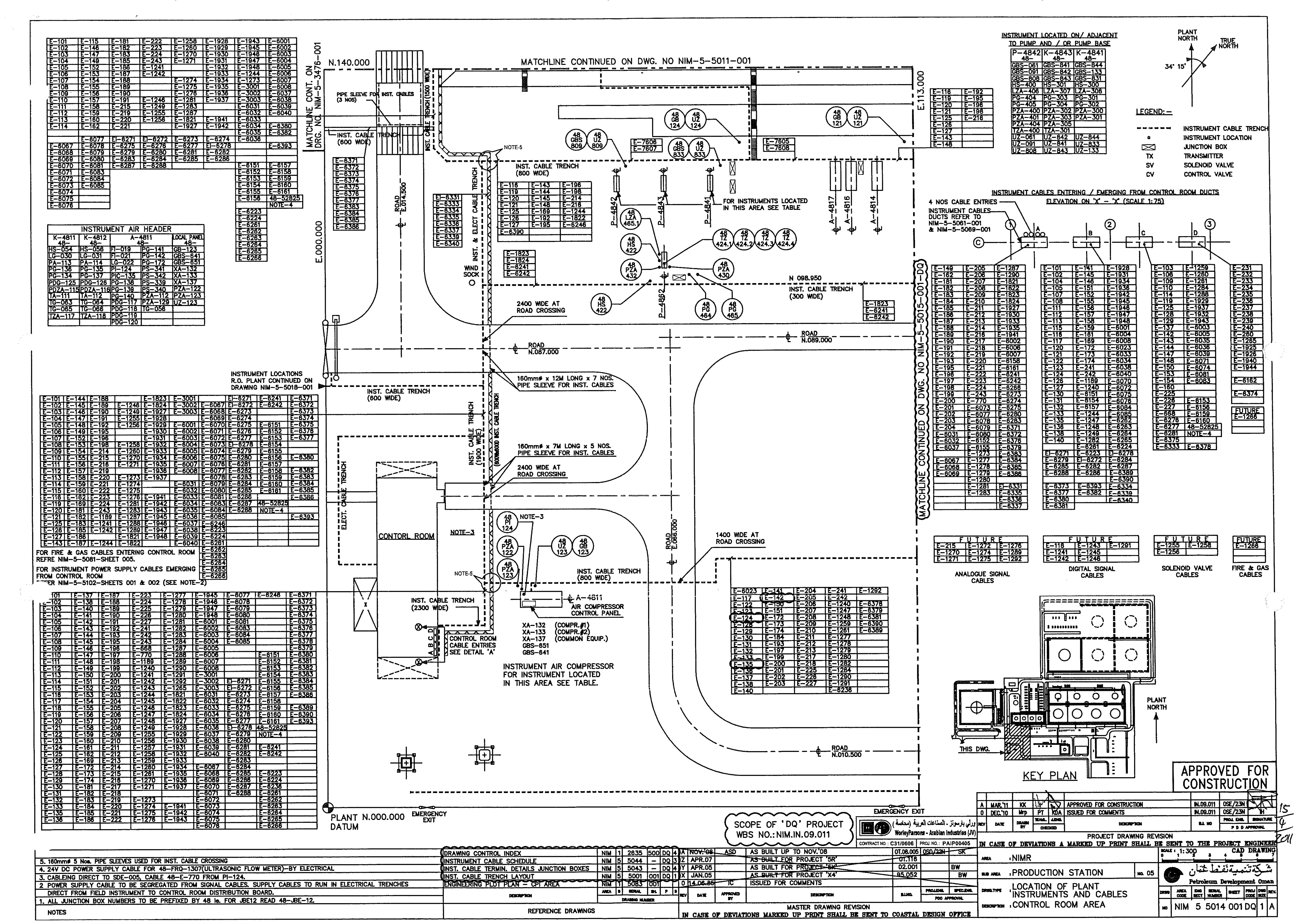
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

REFERENCE DRAWINGS: DRAWING CONTROL INDEX — NIM 1 2635 500 DQ 4 S

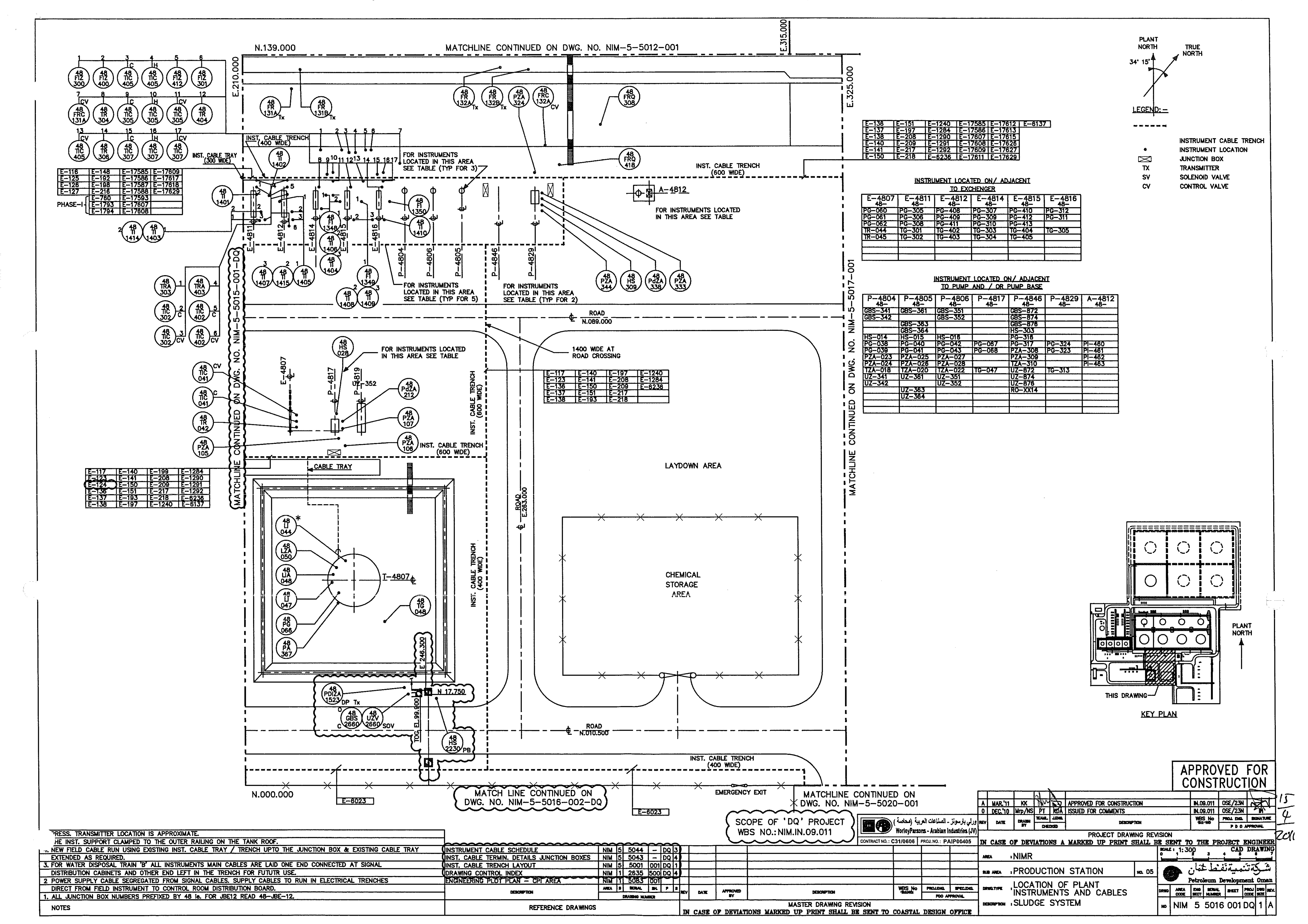
NOTES
1. IDB-001, IDB-001/1 & IDB-002 ARE 2000mm HIGH FREE STANDING BOARDS. IDB-003 IS A WALL MOUNTED BOARD.
2. EARTH BARS TO BE 2000mm LONG & MOUNTED BELLOW FLOOR.

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

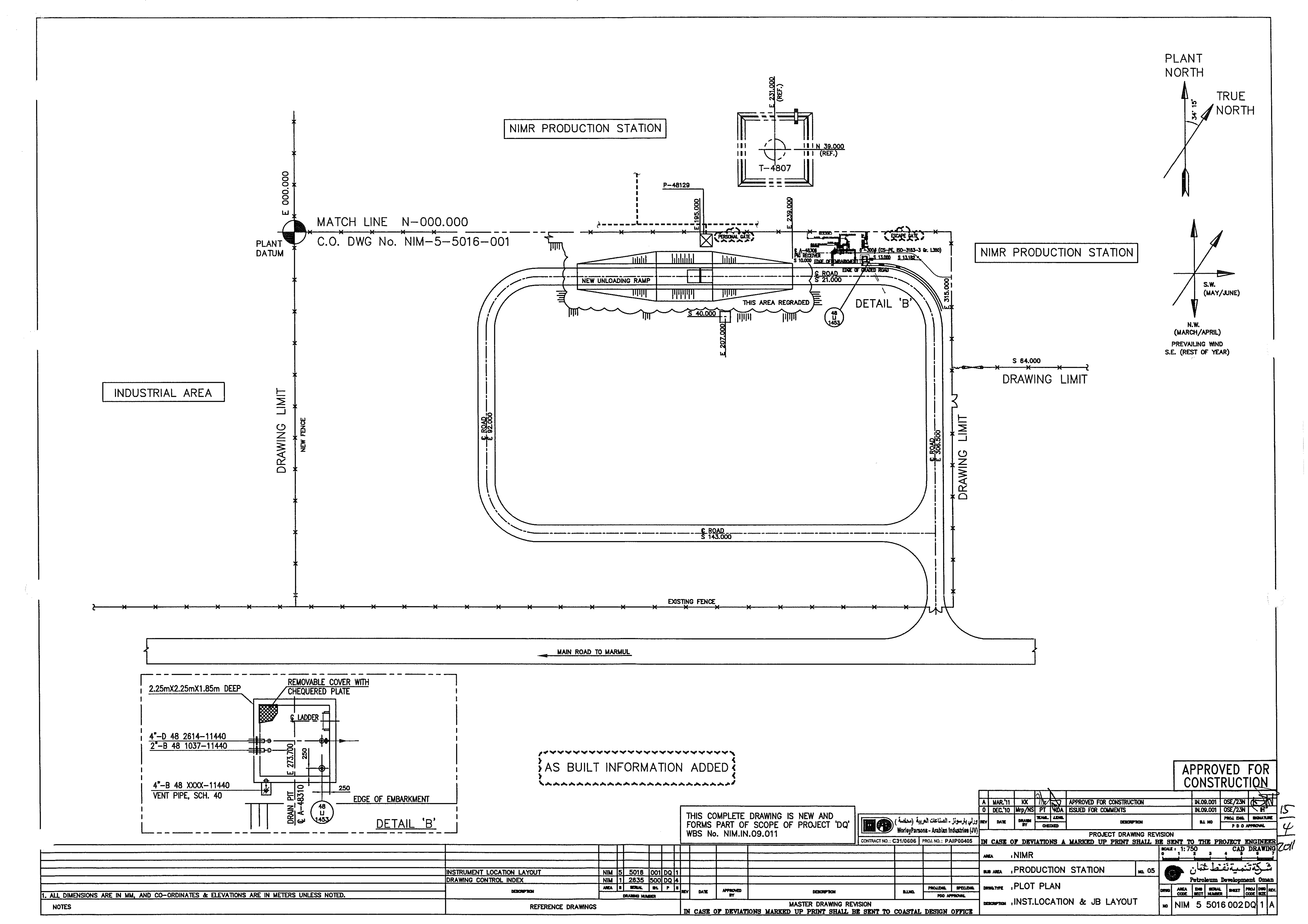
AREA: NIMR
SUB AREA: PRODUCTION STATION — NO. 05
DRWG.TYPE: EQUIPMENT LAYOUT
DESCRIPTION: CONTROL / AUXILIARY ROOM
SCALE: 1:75 — CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO: NIM 5 5047 001 DQ 1 A



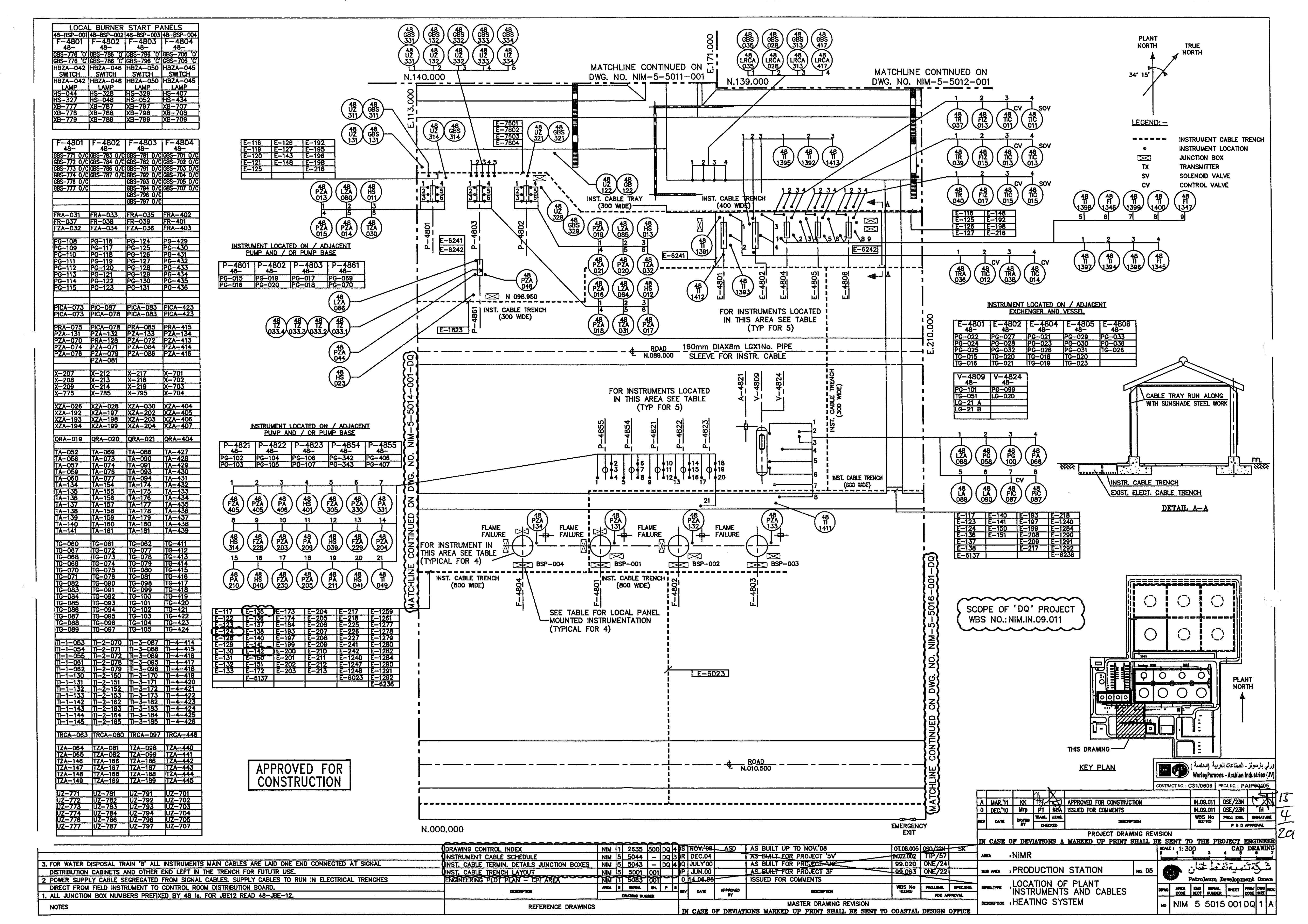
MATCHLINE CONTINUED ON DWG. NO NIM-5-5011-001
MATCHLINE CONT. ON DRG. NO. NIM-5-3476-001
MATCHLINE CONTINUED ON DWG. NO NIM-5-5015-001-DQ
N.140.000
E.113.000
E.000.000
INSTRUMENT AIR HEADER
PIPE SLEEVE FOR INST. CABLES (3 NOS)
INST. CABLE TRENCH (600 WIDE)
INST. CABLE TRENCH (1500 WIDE)
INST. CABLE TRENCH (800 WIDE)
INST. & ELECT CABLE TRENCH
FOR INSTRUMENTS LOCATED IN THIS AREA SEE TABLE
ROAD E.014.500
WIND SOCK
N 098.950
INST. CABLE TRENCH (300 WIDE)
2400 WIDE AT ROAD CROSSING
ROAD N.087.000
ROAD N.089.000
INSTRUMENT LOCATIONS R.O. PLANT CONTINUED ON DRAWING NIM-5-5018-001
160mm# x 12M LONG x 7 NOS. PIPE SLEEVE FOR INST. CABLES
160mm# x 7M LONG x 5 NOS. PIPE SLEEVE FOR INST. CABLES
INST. CABLE TRENCH (1900 WIDE)
ELECT. CABLE TRENCH
CONTORL ROOM
NOTE-3
NOTE-5
ROAD E.066.000
1400 WIDE AT ROAD CROSSING
INST. CABLE TRENCH (2300 WIDE)
A-4811 AIR COMPRESSOR CONTROL PANEL
XA-132 (COMPR.#1)
XA-133 (COMPR.#2)
XA-137 (COMMON EQUIP.)
GBS-651
GBS-841
CONTROL ROOM CABLE ENTRIES SEE DETAIL 'A'
INSTRUMENT AIR COMPRESSOR FOR INSTRUMENT LOCATED IN THIS AREA SEE TABLE.
FOR FIRE & GAS CABLES ENTERING CONTROL ROOM REFRE NIM-5-5081-SHEET 005.
FOR INSTRUMENT POWER SUPPLY CABLES EMERGING FROM CONTROL ROOM REFER NIM-5-5102-SHEETS 001 & 002 (SEE NOTE-2)
ROAD N.010.500
PLANT N.000.000 DATUM
EMERGENCY EXIT
INSTRUMENT LOCATED ON/ ADJACENT TO PUMP AND / OR PUMP BASE
PLANT NORTH
TRUE NORTH
34° 15'
LEGEND:-
INSTRUMENT CABLE TRENCH
INSTRUMENT LOCATION
JUNCTION BOX
TX TRANSMITTER
SV SOLENOID VALVE
CV CONTROL VALVE
INSTRUMENT CABLES ENTERING / EMERGING FROM CONTROL ROOM DUCTS
ELEVATION ON 'X' - 'X' (SCALE 1:75)
4 NOS CABLE ENTRIES
INSTRUMENT CABLES DUCTS REFER TO NIM-5-5061-001 & NIM-5-5069-001
FUTURE
ANALOGUE SIGNAL CABLES
DIGITAL SIGNAL CABLES
SOLENOID VALVE CABLES
FIRE & GAS CABLES
KEY PLAN
THIS DWG.
APPROVED FOR CONSTRUCTION
SCOPE OF 'DQ' PROJECT WBS NO.:NIM.IN.09.011
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405
A MAR.'11 APPROVED FOR CONSTRUCTION
0 DEC.'10 ISSUED FOR COMMENTS
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
AREA : NIMR
SUB AREA : PRODUCTION STATION
DRWG.TYPE : LOCATION OF PLANT INSTRUMENTS AND CABLES
DESCRIPTION : CONTROL ROOM AREA
SCALE 1:300
CAD DRAWING
Petroleum Development Oman
NIM 5 5014 001 DQ 1 A
DRAWING CONTROL INDEX NIM 1 2835 500 DQ 4
INSTRUMENT CABLE SCHEDULE NIM 5 5044 - DQ 3
INST. CABLE TERMIN. DETAILS JUNCTION BOXES NIM 5 5043 - DQ 4
INST. CABLE TRENCH LAYOUT NIM 5 5001 001 DQ 1
ENGINEERING PLOT PLAN - CPI AREA NIM 1 5083 001
REFERENCE DRAWINGS
A NOV.'08 AS BUILT UP TO NOV.'08
Z APR.07 AS BUILT FOR PROJECT '5R'
Y APR.05 AS BUILT FOR PROJECT '6X'
X JAN.05 AS BUILT FOR PROJECT 'X4'
0 14.06.86 ISSUED FOR COMMENTS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
5. 160mm# 5 Nos. PIPE SLEEVES USED FOR INST. CABLE CROSSING
4. 24V DC POWER SUPPLY CABLE FOR 48-FRQ-1307(ULTRASONIC FLOW METER)-BY ELECTRICAL
3. CABLEING DIRECT TO SDE-005, CABLE 48-E-770 FROM PI-124.
2 POWER SUPPLY CABLE TO BE SEGREGATED FROM SIGNAL CABLES. SUPPLY CABLES TO RUN IN ELECTRICAL TRENCHES DIRECT FROM FIELD INSTRUMENT TO CONTROL ROOM DISTRIBUTION BOARD.
1. ALL JUNCTION BOX NUMBERS TO BE PREFIXED BY 48 ie. FOR JBE12 READ 48-JBE-12.
NOTES



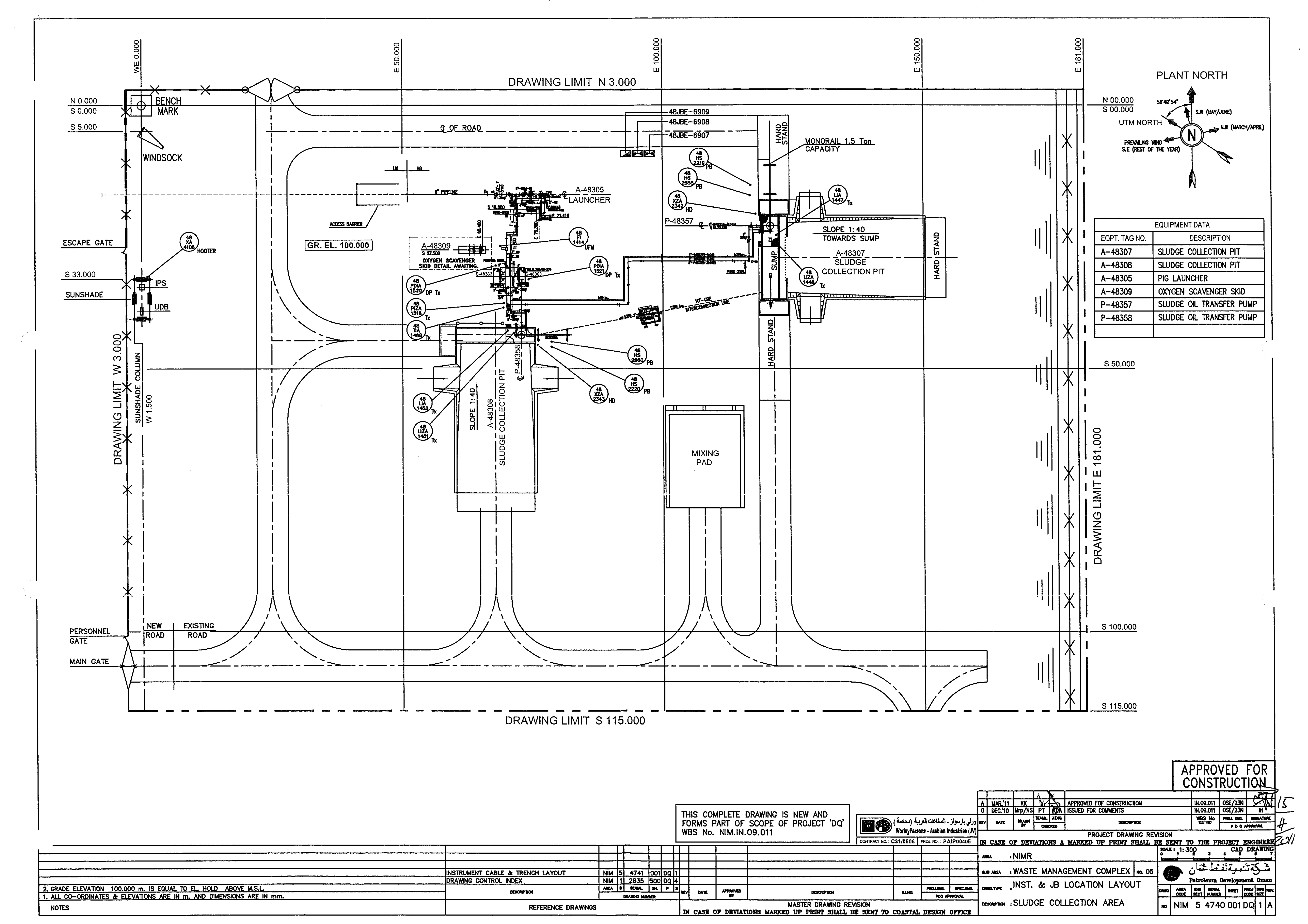
N.139.000
MATCHLINE CONTINUED ON DWG. NO. NIM-5-5012-001
E.315.000
E.210.000
E.325.000
PLANT NORTH
TRUE NORTH
34° 15'
LEGEND:-
INSTRUMENT CABLE TRENCH
INSTRUMENT LOCATION
JUNCTION BOX
TX TRANSMITTER
SV SOLENOID VALVE
CV CONTROL VALVE
INST. CABLE TRENCH (400 WIDE)
INST. CABLE TRAY (300 WIDE)
FOR INSTRUMENTS LOCATED IN THIS AREA SEE TABLE (TYP FOR 3)
INST. CABLE TRENCH (600 WIDE)
A-4812
FOR INSTRUMENTS LOCATED IN THIS AREA SEE TABLE
INSTRUMENT LOCATED ON/ ADJACENT TO EXCHENGER
INSTRUMENT LOCATED ON/ ADJACENT TO PUMP AND / OR PUMP BASE
FOR INSTRUMENTS LOCATED IN THIS AREA SEE TABLE (TYP FOR 5)
FOR INSTRUMENTS LOCATED IN THIS AREA SEE TABLE (TYP FOR 2)
ROAD N.089.000
1400 WIDE AT ROAD CROSSING
MATCHLINE CONTINUED ON DWG. NO. NIM-5-5015-001-DQ
MATCHLINE CONTINUED ON DWG. NO. NIM-5-5017-001
INST. CABLE TRENCH (600 WIDE)
CABLE TRAY
LAYDOWN AREA
ROAD E.283.000
INST. CABLE TRENCH (400 WIDE)
T-4807
CHEMICAL STORAGE AREA
E.246.300
N 17.750
TOC EL 99.900
ROAD N.010.500
INST. CABLE TRENCH (400 WIDE)
EMERGENCY EXIT
N.000.000
E-6023
MATCH LINE CONTINUED ON DWG. NO. NIM-5-5016-002-DQ
MATCHLINE CONTINUED ON DWG. NO. NIM-5-5020-001
SCOPE OF 'DQ' PROJECT WBS NO.:NIM.IN.09.011
PLANT NORTH
THIS DRAWING
KEY PLAN
APPROVED FOR CONSTRUCTION
...PRESS. TRANSMITTER LOCATION IS APPROXIMATE.
...HE INST. SUPPORT CLAMPED TO THE OUTER RAILING ON THE TANK ROOF.
4. NEW FIELD CABLE RUN USING EXISTING INST. CABLE TRAY / TRENCH UPTO THE JUNCTION BOX & EXISTING CABLE TRAY EXTENDED AS REQUIRED.
3. FOR WATER DISPOSAL TRAIN 'B' ALL INSTRUMENTS MAIN CABLES ARE LAID ONE END CONNECTED AT SIGNAL DISTRIBUTION CABINETS AND OTHER END LEFT IN THE TRENCH FOR FUTUTR USE.
2 POWER SUPPLY CABLE SEGREGATED FROM SIGNAL CABLES. SUPPLY CABLES TO RUN IN ELECTRICAL TRENCHES DIRECT FROM FIELD INSTRUMENT TO CONTROL ROOM DISTRIBUTION BOARD.
1. ALL JUNCTION BOX NUMBERS PREFIXED BY 48 ie. FOR JBE12 READ 48-JBE-12.
NOTES
INSTRUMENT CABLE SCHEDULE NIM 5 5044 - DQ 3
INST. CABLE TERMIN. DETAILS JUNCTION BOXES NIM 5 5043 - DQ 4
INST. CABLE TRENCH LAYOUT NIM 5 5001 001 DQ 1
DRAWING CONTROL INDEX NIM 1 2635 500 DQ 4
ENGINEERING PLOT PLAN - CPI AREA NIM 1 5083 001
REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405
A MAR.'11 KK APPROVED FOR CONSTRUCTION IN.09.011 OSE/23N
0 DEC.'10 Mrp/NS PT KDA ISSUED FOR COMMENTS IN.09.011 OSE/23N
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE: 1:300
CAD DRAWING
AREA :NIMR
SUB AREA :PRODUCTION STATION NO. 05
DRWG.TYPE :LOCATION OF PLANT INSTRUMENTS AND CABLES
DESCRIPTION :SLUDGE SYSTEM
شركة تنمية نفط عمان
Petroleum Development Oman
NO NIM 5 5016 001 DQ 1 A



PLANT NORTH
TRUE NORTH
34° 15'
NIMR PRODUCTION STATION
T-4807
E 231.000 (REF.)
N 39.000 (REF.)
P-48129
E 195.000
E 239.000
MATCH LINE N-000.000
C.O. DWG No. NIM-5-5016-001
E 000.000
PLANT DATUM
PERSONAL GATE
ESCAPE GATE
NEW UNLOADING RAMP
THIS AREA REGRADED
℄ ROAD S 21.000
S 40.000
E 207.000
DETAIL 'B'
48 LI 1453
E 315.000
NIMR PRODUCTION STATION
S.W. (MAY/JUNE)
N.W. (MARCH/APRIL)
PREVAILING WIND S.E. (REST OF YEAR)
S 64.000
DRAWING LIMIT
INDUSTRIAL AREA
DRAWING LIMIT
NEW FENCE
℄ ROAD E 92.000
℄ ROAD E 306.500
DRAWING LIMIT
℄ ROAD S 143.000
EXISTING FENCE
MAIN ROAD TO MARMUL
2.25mX2.25mX1.85m DEEP
REMOVABLE COVER WITH CHEQUERED PLATE
℄ LADDER
4"-D 48 2614-11440
2"-B 48 1037-11440
E 273.700
250
4"-B 48 XXXX-11440
VENT PIPE, SCH. 40
250
DRAIN PIT ℄ A-48310
EDGE OF EMBARKMENT
48 LI 1453
DETAIL 'B'
AS BUILT INFORMATION ADDED
THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJECT 'DQ' WBS No. NIM.IN.09.011
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405
APPROVED FOR CONSTRUCTION
A MAR.'11 KK APPROVED FOR CONSTRUCTION IN.09.001 OSE/23N
0 DEC.'10 Mrp/NS PT KDA ISSUED FOR COMMENTS IN.09.001 OSE/23N IH
REV DATE DRAWN BY CHECKED DESCRIPTION B.I. NO PROJ. ENG. SIGNATURE P D O APPROVAL
15/4/2011
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE: 1:750 CAD DRAWING
AREA: NIMR
SUB AREA: PRODUCTION STATION NO. 05
DRWG.TYPE: PLOT PLAN
DESCRIPTION: INST.LOCATION & JB LAYOUT
Petroleum Development Oman
شركة تنمية نفط عمان
DRWG NO NIM 5 5016 002 DQ 1 A
INSTRUMENT LOCATION LAYOUT NIM 5 5016 001 DQ 1
DRAWING CONTROL INDEX NIM 1 2635 500 DQ 4
REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
1. ALL DIMENSIONS ARE IN MM, AND CO-ORDINATES & ELEVATIONS ARE IN METERS UNLESS NOTED.
NOTES



LOCAL BURNER START PANELS
MATCHLINE CONTINUED ON DWG. NO. NIM-5-5011-001
MATCHLINE CONTINUED ON DWG. NO. NIM-5-5012-001
MATCHLINE CONTINUED ON DWG. NO. NIM-5-5014-001-DQ
MATCHLINE CONTINUED ON DWG. NO. NIM-5-5016-001-DQ
N.140.000
N.139.000
E.113.000
E.171.000
E.210.000
N 098.950
N.000.000
PLANT NORTH
TRUE NORTH
34° 15'
LEGEND:-
INSTRUMENT CABLE TRENCH
INSTRUMENT LOCATION
JUNCTION BOX
TX TRANSMITTER
SV SOLENOID VALVE
CV CONTROL VALVE
INST. CABLE TRAY (300 WIDE)
INST. CABLE TRENCH (400 WIDE)
INST. CABLE TRENCH (300 WIDE)
INST. CABLE TRENCH (800 WIDE)
INST. CABLE TRENCH (600 WIDE)
INSTRUMENT LOCATED ON / ADJACENT PUMP AND / OR PUMP BASE
INSTRUMENT LOCATED ON / ADJACENT EXCHANGER AND VESSEL
FOR INSTRUMENTS LOCATED IN THIS AREA SEE TABLE (TYP FOR 5)
FOR INSTRUMENT IN THIS AREA SEE TABLE (TYPICAL FOR 4)
SEE TABLE FOR LOCAL PANEL MOUNTED INSTRUMENTATION (TYPICAL FOR 4)
ROAD N.089.000
160mm DIAX8m LGX1No. PIPE SLEEVE FOR INSTR. CABLE
ROAD N.010.500
FLAME FAILURE
BSP-004
BSP-001
BSP-002
BSP-003
EMERGENCY EXIT
CABLE TRAY RUN ALONG WITH SUNSHADE STEEL WORK
INSTR. CABLE TRENCH
EXIST. ELECT. CABLE TRENCH
DETAIL A-A
SCOPE OF 'DQ' PROJECT WBS NO.: NIM.IN.09.011
KEY PLAN
THIS DRAWING
APPROVED FOR CONSTRUCTION
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ.NO.: PAIP00405
A MAR.'11 KK APPROVED FOR CONSTRUCTION IN.09.011 OSE/23N
0 DEC.'10 Mrp PT KBA ISSUED FOR COMMENTS IN.09.011 OSE/23N
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
SCALE: 1:300
CAD DRAWING
AREA: NIMR
SUB AREA: PRODUCTION STATION
NO. 05
DRWG.TYPE: LOCATION OF PLANT INSTRUMENTS AND CABLES
DESCRIPTION: HEATING SYSTEM
NO: NIM 5 5015 001 DQ 1 A
Petroleum Development Oman
DRAWING CONTROL INDEX NIM 1 2835 500 DQ 4
INSTRUMENT CABLE SCHEDULE NIM 5 5044 - DQ 3
INST. CABLE TERMIN. DETAILS JUNCTION BOXES NIM 5 5043 - DQ 4
INST. CABLE TRENCH LAYOUT NIM 5 5001 001
ENGINEERING PLOT PLAN - CPI AREA NIM 1 5083 001
REFERENCE DRAWINGS
S NOV.'08 ASD AS BUILT UP TO NOV.'08
R DEC.04 AS BUILT FOR PROJECT '5V'
Q JULY'00 AS BUILT FOR PROJECT 'U8'
P JUN.00 AS BUILT FOR PROJECT 3F
0 14.06.95 ISSUED FOR COMMENTS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
3. FOR WATER DISPOSAL TRAIN 'B' ALL INSTRUMENTS MAIN CABLES ARE LAID ONE END CONNECTED AT SIGNAL DISTRIBUTION CABINETS AND OTHER END LEFT IN THE TRENCH FOR FUTUTR USE.
2. POWER SUPPLY CABLE SEGREGATED FROM SIGNAL CABLES. SUPPLY CABLES TO RUN IN ELECTRICAL TRENCHES DIRECT FROM FIELD INSTRUMENT TO CONTROL ROOM DISTRIBUTION BOARD.
1. ALL JUNCTION BOX NUMBERS PREFIXED BY 48 ie. FOR JBE12 READ 48-JBE-12.
NOTES



EQUIPMENT DATA	
EQPT. TAG NO.	DESCRIPTION
A-48307	SLUDGE COLLECTION PIT
A-48308	SLUDGE COLLECTION PIT
A-48305	PIG LAUNCHER
A-48309	OXYGEN SCAVENGER SKID
P-48357	SLUDGE OIL TRANSFER PUMP
P-48358	SLUDGE OIL TRANSFER PUMP

APPROVED FOR CONSTRUCTION

THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJECT 'DQ' WBS No. NIM.IN.09.011

WorleyParsons - Arabian Industries (JV) وورلي بارسونز - الصناعات العربية (محاصة)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405

REV	DATE	DRAWN BY	TEAM L.	J.ENG.	DESCRIPTION	WBS No	PROJ. ENG.	SIGNATURE
A	MAR.'11	KK			APPROVED FOF CONSTRUCTION	IN.09.011	OSE/23N	
0	DEC.'10	Mrp/NS	PT	KDA	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	IH

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

15/4/2011

AREA : NIMR
SUB AREA : WASTE MANAGEMENT COMPLEX NO. 05
DRWG.TYPE : INST. & JB LOCATION LAYOUT
DESCRIPTION : SLUDGE COLLECTION AREA
SCALE : 1:300 CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4740	001	DQ	1	A

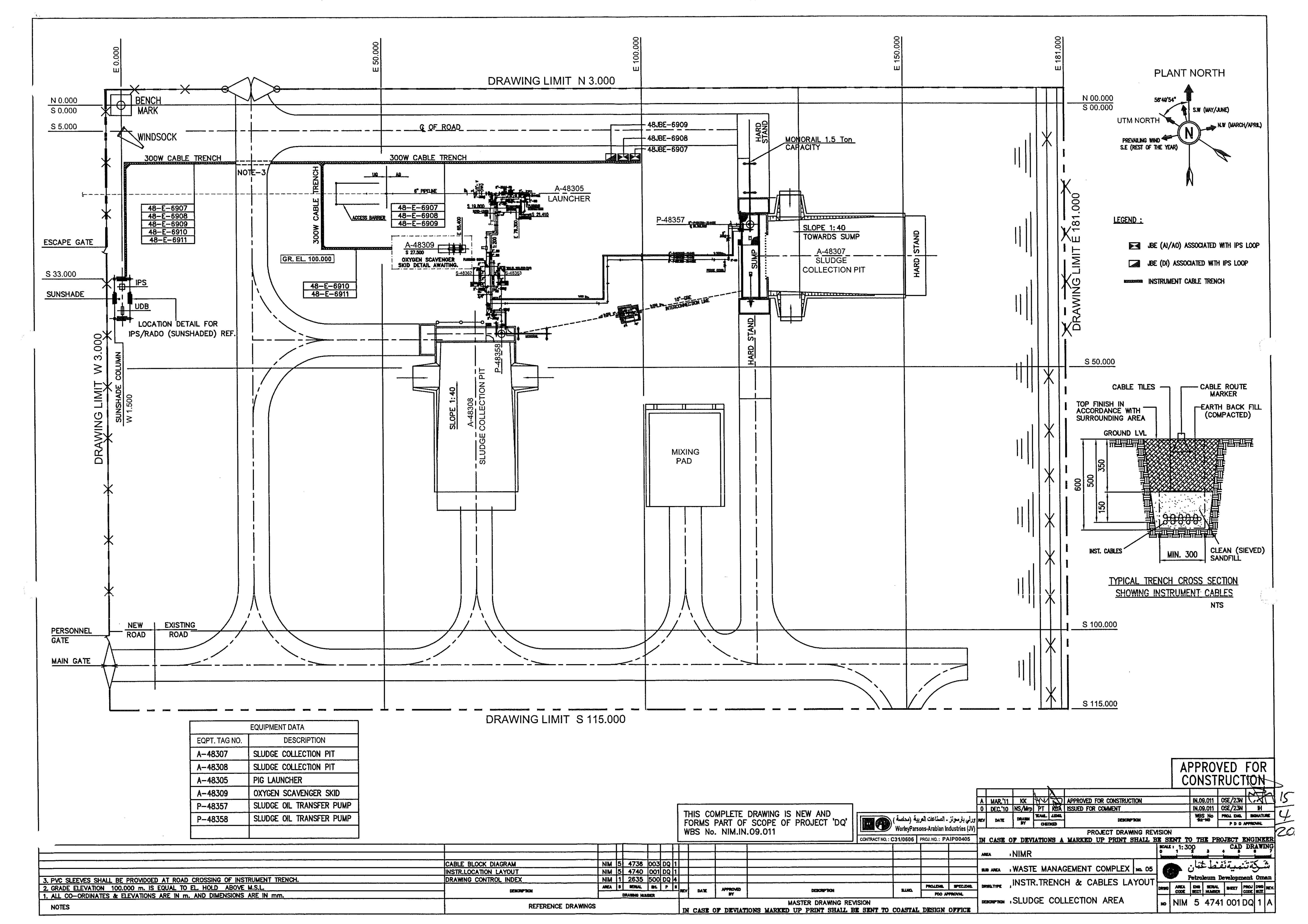
DESCRIPTION	AREA	S	SERIAL	SH.	P	S
INSTRUMENT CABLE & TRENCH LAYOUT	NIM	5	4741	001	DQ	1
DRAWING CONTROL INDEX	NIM	1	2635	500	DQ	4

REFERENCE DRAWINGS

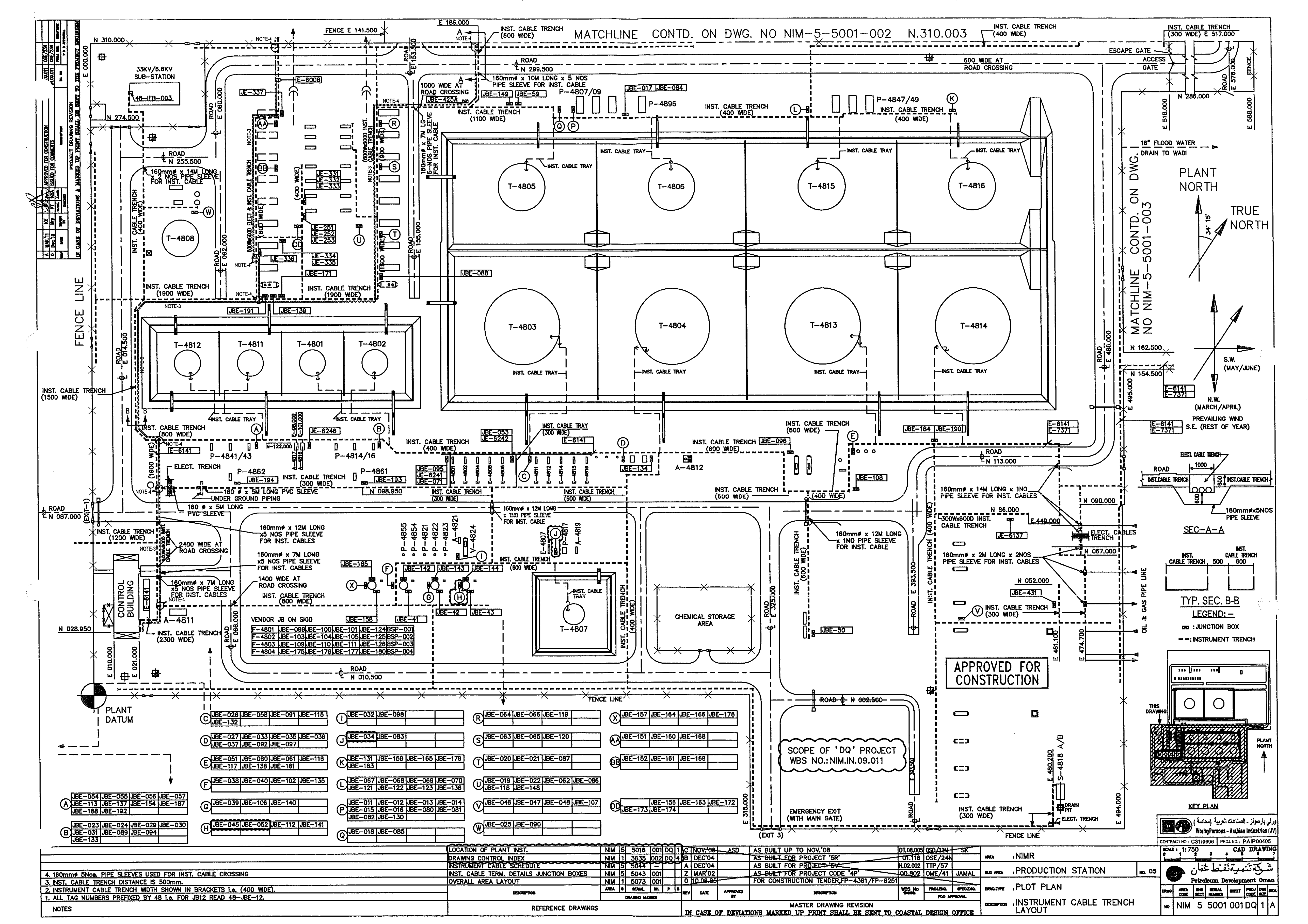
2. GRADE ELEVATION 100.000 m. IS EQUAL TO EL. HOLD ABOVE M.S.L.
1. ALL CO-ORDINATES & ELEVATIONS ARE IN m. AND DIMENSIONS ARE IN mm.

NOTES

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE



EQUIPMENT DATA	
EQPT. TAG NO.	DESCRIPTION
A-48307	SLUDGE COLLECTION PIT
A-48308	SLUDGE COLLECTION PIT
A-48305	PIG LAUNCHER
A-48309	OXYGEN SCAVENGER SKID
P-48357	SLUDGE OIL TRANSFER PUMP
P-48358	SLUDGE OIL TRANSFER PUMP


MATCHLINE CONTD. ON DWG. NO NIM-5-5001-002 N.310.003
MATCHLINE CONTD. ON DWG. NO NIM-5-5001-003
FENCE LINE
FENCE E 141.500
E 186.000
N 310.000
E 000.000
33KV/6.6KV SUB-STATION
48-IFB-003
N 274.500
ROAD N 299.500
ROAD N 255.500
160mmø x 14M LONG x 2 NOS PIPE SLEEVE FOR INST. CABLE
160mmø x 10M LONG x 5 NOS PIPE SLEEVE FOR INST. CABLE
1000 WIDE AT ROAD CROSSING
INST. CABLE TRENCH (600 WIDE)
INST. CABLE TRENCH (1100 WIDE)
INST. CABLE TRENCH (400 WIDE)
INST. CABLE TRENCH (1900 WIDE)
INST. CABLE TRENCH (1500 WIDE)
INST. CABLE TRENCH (800 WIDE)
INST. CABLE TRENCH (300 WIDE)
INST. CABLE TRENCH (1200 WIDE)
INST. CABLE TRENCH (2300 WIDE)
INST. CABLE TRAY
ESCAPE GATE
ACCESS GATE
600 WIDE AT ROAD CROSSING
INST. CABLE TRENCH (300 WIDE) E 517.000
16" FLOOD WATER DRAIN TO WADI
PLANT NORTH
TRUE NORTH
34° 15'
S.W. (MAY/JUNE)
N.W. (MARCH/APRIL)
PREVAILING WIND S.E. (REST OF YEAR)
P-4807/09
P-4896
P-4847/49
T-4805
T-4806
T-4815
T-4816
T-4808
T-4803
T-4804
T-4813
T-4814
T-4812
T-4811
T-4801
T-4802
T-4807
P-4841/43
P-4814/16
P-4862
P-4861
A-4812
A-4811
CONTROL BUILDING
CHEMICAL STORAGE AREA
ELECT. TRENCH
160 ø x 5M LONG PVC SLEEVE UNDER GROUND PIPING
160 ø x 5M LONG PVC SLEEVE
2400 WIDE AT ROAD CROSSING
160mmø x 12M LONG x5 NOS PIPE SLEEVE FOR INST. CABLES
160mmø x 7M LONG x5 NOS PIPE SLEEVE FOR INST. CABLES
1400 WIDE AT ROAD CROSSING
160mmø x 12M LONG x 1NO PIPE SLEEVE FOR INST. CABLE
160mmø x 14M LONG x 1NO. PIPE SLEEVE FOR INST. CABLES
160mmø x 2M LONG x 2NOS PIPE SLEEVE FOR INST. CABLES
160mmøx5NOS PIPE SLEEVE
300Wx600D INST. CABLE TRENCH
VENDOR JB ON SKID
ROAD N 010.500
ROAD N 002.580
N 028.950
ROAD N 087.000
N 098.950
N 113.000
N 090.000
N 086.000
N 087.000
N 052.000
N 182.500
N 154.500
PLANT DATUM
EMERGENCY EXIT (WITH MAIN GATE)
(EXIT 3)
OIL & GAS PIPE LINE
SEC-A-A
TYP. SEC. B-B
LEGEND:-
: JUNCTION BOX
: INSTRUMENT TRENCH
APPROVED FOR CONSTRUCTION
SCOPE OF 'DQ' PROJECT WBS NO.: NIM.IN.09.011
KEY PLAN
THIS DRAWING
PLANT NORTH
DRAIN PIT
F-4801	JBE-099	JBE-100	JBE-101	JBE-124	BSP-001
F-4802	JBE-103	JBE-104	JBE-105	JBE-125	BSP-002
F-4803	JBE-109	JBE-110	JBE-111	JBE-126	BSP-003
F-4804	JBE-175	JBE-176	JBE-177	JBE-180	BSP-004
(A) JBE-054 JBE-055 JBE-056 JBE-057 JBE-113 JBE-137 JBE-154 JBE-187 JBE-188 JBE-192
(B) JBE-023 JBE-024 JBE-029 JBE-030 JBE-031 JBE-089 JBE-094 JBE-133
(C) JBE-026 JBE-058 JBE-091 JBE-115 JBE-132
(D) JBE-027 JBE-033 JBE-035 JBE-036 JBE-037 JBE-092 JBE-097
(E) JBE-051 JBE-060 JBE-061 JBE-116 JBE-117 JBE-138 JBE-181
(F) JBE-038 JBE-040 JBE-102 JBE-135
(G) JBE-039 JBE-106 JBE-140
(H) JBE-045 JBE-052 JBE-112 JBE-141
(I) JBE-032 JBE-098
(J) JBE-034 JBE-083
(K) JBE-131 JBE-159 JBE-165 JBE-179 JBE-183
(L) JBE-067 JBE-068 JBE-069 JBE-070 JBE-121 JBE-122 JBE-123 JBE-136
(P) JBE-011 JBE-012 JBE-013 JBE-014 JBE-015 JBE-016 JBE-080 JBE-081 JBE-082 JBE-130
(Q) JBE-018 JBE-085
(R) JBE-064 JBE-066 JBE-119
(S) JBE-063 JBE-065 JBE-120
(T) JBE-020 JBE-021 JBE-087
(U) JBE-019 JBE-022 JBE-062 JBE-086 JBE-118 JBE-148
(V) JBE-046 JBE-047 JBE-048 JBE-107
(W) JBE-025 JBE-090
(X) JBE-157 JBE-164 JBE-166 JBE-178
(AA) JBE-151 JBE-160 JBE-168
(BB) JBE-152 JBE-161 JBE-169
(DD) JBE-156 JBE-163 JBE-172 JBE-173 JBE-174
NOTES
1. ALL TAG NUMBERS PREFIXED BY 48 i.e. FOR JB12 READ 48-JBE-12.
2. INSTRUMENT CABLE TRENCH WIDTH SHOWN IN BRACKETS i.e. (400 WIDE).
3. INST. CABLE TRENCH DISTANCE IS 500mm.
4. 160mmø 5Nos. PIPE SLEEVES USED FOR INST. CABLE CROSSING
REFERENCE DRAWINGS
LOCATION OF PLANT INST. NIM 5 5016 001 DQ
DRAWING CONTROL INDEX NIM 1 3635 002 DQ
INSTRUMENT CABLE SCHEDULE NIM 5 5044
INST. CABLE TERM. DETAILS JUNCTION BOXES NIM 5 5043 001
OVERALL AREA LAYOUT NIM 1 5073 001
C NOV.'08 ASD AS BUILT UP TO NOV.'08
B DEC'04 AS BUILT FOR PROJECT '5R' 01.118 OSE/24N
A DEC'04 AS BUILT FOR PROJECT '5V' TTP/57
Z MAR'02 AS BUILT FOR PROJECT CODE '4P' OME/41 JAMAL
0 10.06.95 FOR CONSTRUCTION TENDER,FP-4361/FP-6251
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0506 PROJ.NO.: PAIP00405
SCALE: 1:750 CAD DRAWING
AREA NIMR
SUB AREA PRODUCTION STATION NO. 05
DRWG.TYPE PLOT PLAN
DESCRIPTION INSTRUMENT CABLE TRENCH LAYOUT
Petroleum Development Oman
NO NIM 5 5001 001 DQ 1 A
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
APPROVED FOR CONSTRUCTION
ISSUED FOR COMMENTS

INSTRUMENT CABLE TERMINATION DETAILS
SIGNAL DISTRIBUTION CABINET
COVER SHEET

SCOPE OF 'DQ' PROJECT
WBS NO.: NIM.IN.09.011

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	TEAML. (CHECKED)	J.ENG. (CHECKED)	DESCRIPTION	WBS No.	PROJ. ENG. (P D O APPROVAL)	SIGNATURE (P D O APPROVAL)
A	MAR.'11	KK			APPROVED FOR COMMENTS	IN.09.011	OSE/23N	
0	DEC.'10	Mrp	PT	KDA	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	IH

15/4/2c

PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

NOTES/REFERENCE DRAWINGS	REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG. (PDO APPROVAL)	SPEC.ENG. (PDO APPROVAL)
	S	NOV.'08	ASD	AS-BUILT UP TO NOV.'08	OT.08.005	OSO/22N	SK
	R	APR.05		AS BUILT FOR PROJ. '5X'	02.001		BW
	Q	JAN.05		AS BUILT FOR PROJECT '3Y & X4'	00.394/95.052		BW
	P	DEC'04		AS BUILT FOR PROJ. 5R	01.116	OSE/24N	
	N	DEC'04		AS BUILT FOR PROJ. 5V	IN.02.002	TTP/57	
	0	JUNE'97		AS BUILT FOR PROJECT 'L4'	93.609		
REFERENCE TO EQUIPMENT/TAG NUMBERS ARE TO BE PREFIXED BY AREA CODE							

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SUB AREA : PRODUCTION STATION — NO. 05

DRWG.TYPE : ICTD

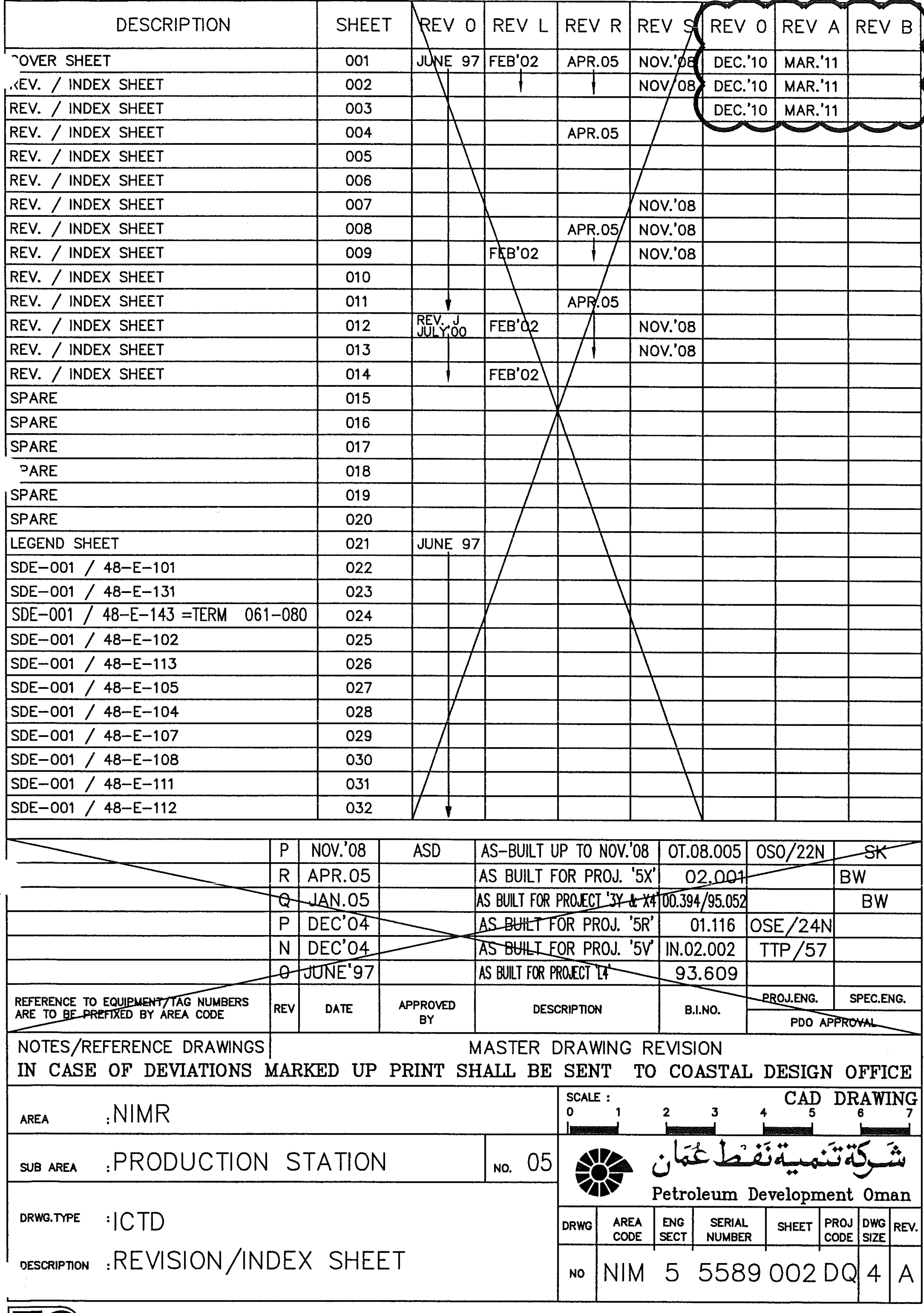
DESCRIPTION : COVER SHEET

SCALE : 0 1 2 3 4 5 6 7 — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5589	001	DQ	4	A


WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405



DESCRIPTION	SHEET	REV 0	REV L	REV R	REV S	REV 0	REV A	REV B
COVER SHEET	001	JUNE 97	FEB'02	APR.05	NOV.'08	DEC.'10	MAR.'11	
REV. / INDEX SHEET	002				NOV.'08	DEC.'10	MAR.'11	
REV. / INDEX SHEET	003					DEC.'10	MAR.'11	
REV. / INDEX SHEET	004			APR.05				
REV. / INDEX SHEET	005							
REV. / INDEX SHEET	006							
REV. / INDEX SHEET	007				NOV.'08			
REV. / INDEX SHEET	008			APR.05	NOV.'08			
REV. / INDEX SHEET	009		FEB'02		NOV.'08			
REV. / INDEX SHEET	010							
REV. / INDEX SHEET	011			APR.05				
REV. / INDEX SHEET	012	REV. J JULY'00	FEB'02		NOV.'08			
REV. / INDEX SHEET	013				NOV.'08			
REV. / INDEX SHEET	014		FEB'02					
SPARE	015							
SPARE	016							
SPARE	017							
SPARE	018							
SPARE	019							
SPARE	020							
LEGEND SHEET	021	JUNE 97						
SDE-001 / 48-E-101	022							
SDE-001 / 48-E-131	023							
SDE-001 / 48-E-143 =TERM 061-080	024							
SDE-001 / 48-E-102	025							
SDE-001 / 48-E-113	026							
SDE-001 / 48-E-105	027							
SDE-001 / 48-E-104	028							
SDE-001 / 48-E-107	029							
SDE-001 / 48-E-108	030							
SDE-001 / 48-E-111	031							
SDE-001 / 48-E-112	032							

	REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
	P	NOV.'08	ASD	AS-BUILT UP TO NOV.'08	OT.08.005	OSO/22N	SK
	R	APR.05		AS BUILT FOR PROJ. '5X'	02.001		BW
	Q	JAN.05		AS BUILT FOR PROJECT '3Y & X4'	00.394/95.052		BW
	P	DEC'04		AS BUILT FOR PROJ. '5R'	01.116	OSE/24N	
	N	DEC'04		AS BUILT FOR PROJ. '5V'	IN.02.002	TTP/57	
	0	JUNE'97		AS BUILT FOR PROJECT 'L4'	93.609		
REFERENCE TO EQUIPMENT/TAG NUMBERS ARE TO BE PREFIXED BY AREA CODE	REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PDO APPROVAL	

NOTES/REFERENCE DRAWINGS — MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR

SCALE : 0 1 2 3 4 5 6 7 — CAD DRAWING

SUB AREA : PRODUCTION STATION — NO. 05

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG.TYPE : ICTD

DESCRIPTION : REVISION/INDEX SHEET

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5589	002	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

DESCRIPTION	SHEET	REV 0	REV J	REV K	REV N	REV 0	REV A
SDE-001 / 48-E-120	033	JUNE 97					
SDE-001 / 48-E-121	034						
SDE-001 / 48-E-122	035		JULY'00				
SDE-001 / 48-E-126	036						
SDE-001 / 48-E-127	037						
SDE-001 / 48-E-130	038						
SDE-001 / 48-E-132	039						
SDE-001 / 48-E-6246	040		JULY'00				
SDE-001 / 48-E-133	041						
SDE-001 /	042						
SDE-001 / 48-E-1823	043						
SDE-001 / 48-E-138	044	OCT'02			DEC.04		
SDE-001 / 48-E-141	045	JUNE 97					
SDE-001 / 48-E-140	046						
SDE-001 / 48-E-115	047						
SDE-002 / 48-E-135	048					DEC.'10	MAR.'11
SDE-002 / 48-E-123	049						
SDE-002 / 48-E-109	050						
SDE-002 / 48-E-142	051					DEC.'10	MAR.'11
SDE-002 / 48-E-116	052		JULY'00				
SDE-002 / 48-E-117	053						
SDE-002 / 48-E-6236	054	OCT'02			DEC.04		
SDE-002 / 48-E-144	055	JUNE'97					
SDE-002 / 48-E-124	056					DEC.'10	MAR.'11
SDE-002 / 48-E-153	057						
SDE-002 / 48-E-136	058	OCT'02			DEC.04		
SDE-002 / 48-E-103	059						
SDE-002 / 48-E-106	060						
SDE-002 / 48-E-110	061						
SDE-002 / 48-E-114	062						
SDE-002 / 48-E-119	063						
SDE-002 / 48-E-125	064						

REV	DATE	DRAWN BY	TEAML. CHECKED	J.ENG. CHECKED	DESCRIPTION	B.I. NO WBS No	PROJ. ENG.	SIGNATURE P D O APPROVAL
N	DEC'04				AS BUILT FOR PROJECT '5V'	IN.02.002	TTP/57	
J	JULY'00	DVd			AS BUILT FOR PROJ.'7G' & SITE MARKUP	00.826	ONE/23	
0	JUNE 97	AJAY			AS BUILT FOR PROJECT L4	93.609		

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO COSTAL DESIGN OFFICE

AREA :NIMR

SCALE : 0 1 2 3 4 5 6 7

CAD DRAWING

SUB AREA :PRODUCTION STATION NO. 05

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG.TYPE :ICTD

DESCRIPTION :REVISION/INDEX SHEET

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5589	003	DQ	4	A



WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

FIELD DEVICES		MARSHALLING				SYSTEM CABLE & BOARD					
TAG NUMBER 48	MULTICORE NO. TYPE/SIZE CONNECTED TO	CORE		STRIP A TML'S		NUMBER	TYPE	SIZE	TML'S		TO
GBS-791 O	48-E-135 PVCI-MS-SWA-PVCS 10x4x0.8MM 48-JBE-45	1R	1B	001	002	E-4012	RADIKOR	EM56/54	01	02	DCS-009
GBS-791 C		1W	10	003	004	E-4012	RADIKOR	EM56/54	03	04	DCS-009
GBS-7920		2R	2B	005	006	E-4012	RADIKOR	EM56/54	05	06	DCS-009
GBS-792C		2W	20	007	008	E-4012	RADIKOR	EM56/54	07	08	DCS-009
PZA-084		3R	3B	009	010	E-4113	RADIKOR	EM56/54	23	24	SGS-004B
PZA-086		3W	30	011	012	E-4113	RADIKOR	EM56/54	25	26	SGS-004B
SPARE		4R	4B	013	014						
SPARE		4W	40	015	016						
SPARE		5R	5B	017	018						
SPARE		5W	50	019	020						
PZA-072		6R	6B	021	022	E-4113	RADIKOR	EM56/54	21	22	SGS-004B
GBS-7940		6W	60	023	024	E-4012	RADIKOR	EM56/54	13	14	DCS-009
GBS-794C		7R	7B	025	026	E-4012	RADIKOR	EM56/54	15	16	DCS-009
GBS-7930		7W	70	027	028	E-4012	RADIKOR	EM56/54	09	10	DCS-009
GBS-793C		8R	8B	029	030	E-4012	RADIKOR	EM56/54	11	12	DCS-009
SPARE		8W	80	031	032						
GBS-2660(O)		9R	9B	033	034	E-4012	RADIKOR	EM56/54	19	20	DCS-009
GBS-2660(C)		9W	90	035	036	E-4012	RADIKOR	EM56/54	21	22	DCS-009
SPARE		10R	10B	037	038						
SPARE		10W	100	039	040						

M1TYPE40

AREA :NIMR

SUB AREA :PRODUCTION STATION NO. 05

DRWG.TYPE :ICTD

DESCRIPTION :SDE-002 / 48-E-135

SCALE : 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5589	048	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

FIELD DEVICES		MARSHALLING				SYSTEM CABLE & BOARD					
TAG NUMBER 48	MULTICORE NO. TYPE/SIZE CONNECTED TO	CORE		STRIP A TML'S		NUMBER	TYPE	SIZE	TML'S		TO
UZ-794	48-E-142 PVCI-SWA-PVCS 21x2.5MM2 48-JBE-52	01	02	081	082	E-4122	RADIKOR	EM30/28	07	08	SGS-001B
UZ-793		03	04	083	084	E-4122	RADIKOR	EM30/28	05	06	SGS-001B
UZ-792		05	06	085	086	E-4122	RADIKOR	EM30/28	03	04	SGS-001B
UZ-791		07	08	087	088	E-4122	RADIKOR	EM30/28	01	02	SGS-001B
UZ-797		09	10	089	090	E-4122	RADIKOR	EM30/28	09	10	SGS-001B
PICA-083		11	12	091	092	E-4122	RADIKOR	EM30/28	11	12	SGS-001B
SPARE		13	14	093	094						
UZV-2660		15	16	095	096	E-4122	RADIKOR	EM30/28	25	26	SGS-001B
SPARE		17	18	097	098						
SPARE		19	20	099	100						

M1TYPE22

AREA :NIMR

SUB AREA :PRODUCTION STATION NO. 05

DRWG.TYPE :ICTD

DESCRIPTION :SDE-002 / 48-E-142

SCALE : 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5589	051	DQ	4	A

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

FIELD DEVICES		MARSHALLING				SYSTEM CABLE & BOARD					
TAG NUMBER 48	MULTICORE NO. TYPE/SIZE CONNECTED TO	CORE		STRIP A TML'S		NUMBER	TYPE	SIZE	TML'S		TO
PDZA-212	48-E-124 PVCI-MS-SWA-PVCS 5x4x0.8MM 48-JBE-34	1R	1B	181	182	E-4113	RADIKOR	EM56/54	29	30	SGS-004B
HS-028		1W	10	183	184	E-4113	RADIKOR	EM56/54	07	08	SGS-004B
PZA-106		2R	2B	185	186	E-4113	RADIKOR	EM56/54	11	12	SGS-004B
PZA-105		2W	20	187	188	E-4113	RADIKOR	EM56/54	09	10	SGS-004B
PZA-107		3R	3B	189	190	E-4113	RADIKOR	EM56/54	13	14	SGS-004B
SPARE		3W	30	191	192						
PDIZA-1523		4R	4B	193	194	E-4113	RADIKOR	EM56/54	39	40	SGS-004B
HS-2230	48-E-135 PVCI-MS-SWA-PVCS 10x4x0.8MM 48-JBE-45	10R	10B	195	196	E-4113	RADIKOR	EM56/54	41	42	SGS-004B
SPARE		5R	5B	197	198						
SPARE		5W	50	199	200						

M1TYPE20

AREA :NIMR

SUB AREA :PRODUCTION STATION NO. 05

DRWG.TYPE :ICTD

DESCRIPTION :SDE-002 / 48-E-124

SCALE : 0 1 2 3 4 5 6 7

CAD DRAWING

شركة تنمية نفط عمان

Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5589	056	DQ	4	0

WorleyParsons-Arabian Industries (JV) Contract No.: C31/0606 Job No.: PAIP00405

INSTRUMENT

CABLE BLOCK DIAGRAMS

NIMR SLUDGE PIT SYSTEM UPGRADE

See comments.

15/4/2011

APPROVED FOR CONSTRUCTION

REV	DATE	DRAWN BY	CHECKED TEAM L.	CHECKED J.ENG.	DESCRIPTION	WBS NO.	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	MAR.'11	KK			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/23N	
0	DEC.'10	Mrp	PT	KDA	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	IH

PROJECT DRAWING REVISION

IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

THIS COMPLETE DRAWING IS NEW AND FORMS PART OF SCOPE OF PROJECT 'DQ' WBS No.NIM.IN.09.011

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 | PROJ. NO.: PAIP00405

AREA : NIMR

SUB AREA : NIMR SLUDGE PIT — NO. 05

DRWG. TYPE : CABLE BLOCK DIAGRAM

DESCRIPTION : COVER SHEET

SCALE : — CAD DRAWING

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4736	001	DQ	1	A

DESCRIPTION	AREA	S	SERIAL	S'L	P	S	REV	DATE	APPROVED BY	DESCRIPTION	B.I.NO.	PROJ.ENG.	SPEC.ENG.
DRAWING CONTROL INDEX	NIM	1	2635	500	DQ	4							

DRAWING NUMBER — PDO APPROVAL

NOTES

REFERENCE DRAWINGS

MASTER DRAWING REVISION

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

SHT. No.	DESCRIPTION	REV.O	REV.A	REV.B	REV.C	REV.D	SHT. No.	DESCRIPTION	REV.O	REV.A	REV.B	REV.C	REV.D
001	COVER SHEET	DEC.'10	MAR.'11				031						
0[illegible]	REVISION / INDEX SHEET	DEC.'10	MAR.'11				032						
003	SLUDGE COLLECTION AREA	DEC.'10	MAR.'11				033						
004	SLUDGE COLLECTION AREA	DEC.'10	MAR.'11				034						
005	PRODUCTION STATION	DEC.'10	MAR.'11				035						
006							036						
007							037						
008							038						
009							039						
010							040						
011							041						
012							042						
[illegible]							043						
014							044						
015							045						
016							046						
017							047						
018							048						
019							049						
020							050						
021							051						
022							052						
0[illegible]							053						
024							054						
025							055						
026							056						
027							057						
028							058						
029							059						
030							060						

LEGEND:

——— HARDWIRED/4-20 mA/FIELDBUS

– – – – – POWER SUPPLY CABLE

—○—○— SERIAL LINK/ETHERNET/RS-485/FO

2. ALL CABLES BETWEEN ELECTRICAL PANELS AND CONTROL CABINETS SHALL BE BY ELECTRICAL.
1. ALL INTERNAL WIRING AND COMPONENTS WITHIN THE SYSTEM CABINETS SHALL BE SUPPLIED/ DETAILED/ FURNISHED BY SYSTEM VENDOR. UNLESS OTHERWISE SPECIFIED, ALL FIELD CABLING/ WIRING AND TERMINATIONS UP TO/ AT MARSHALING CABINETS BY INSTRUMENT CONTRACTOR.

NOTES

DESCRIPTION	AREA	S	SERIAL	SH.	P	S
DRAWING CONTROL INDEX	NIM	1	2635	500	DQ	4

REFERENCE DRAWINGS (DRAWING NUMBER)

REV | DATE | APPROVED BY | DESCRIPTION | B.I.NO. | PROJ.ENG. | SPEC.ENG. | PDO APPROVAL

MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

AREA : NIMR
SUB AREA : NIMR SLUDGE PIT — NO. 05
DRWG.TYPE : CABLE BLOCK DIAGRAM
DESCRIPTION : REVISION/INDEX/LEGEND SHEET

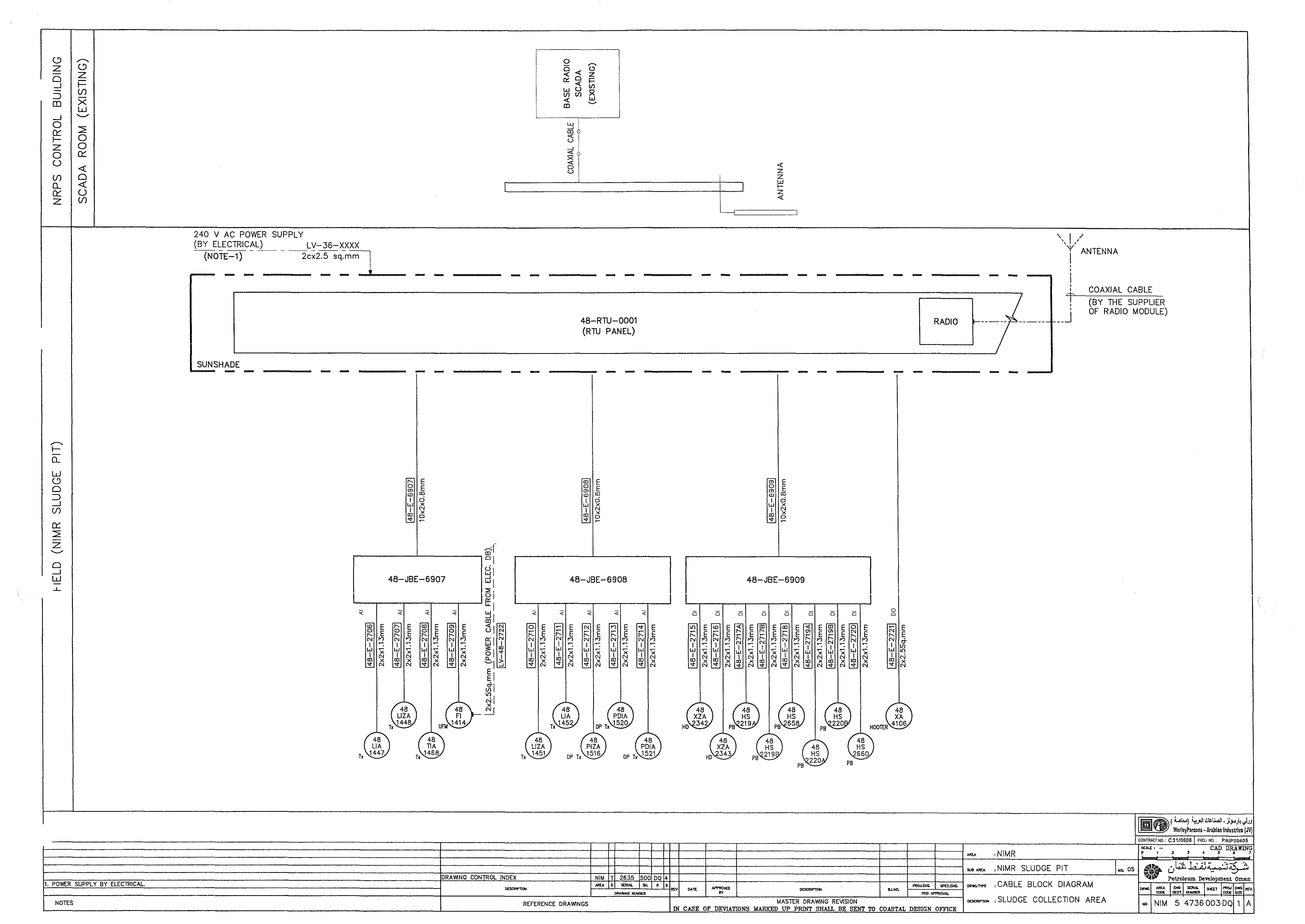
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

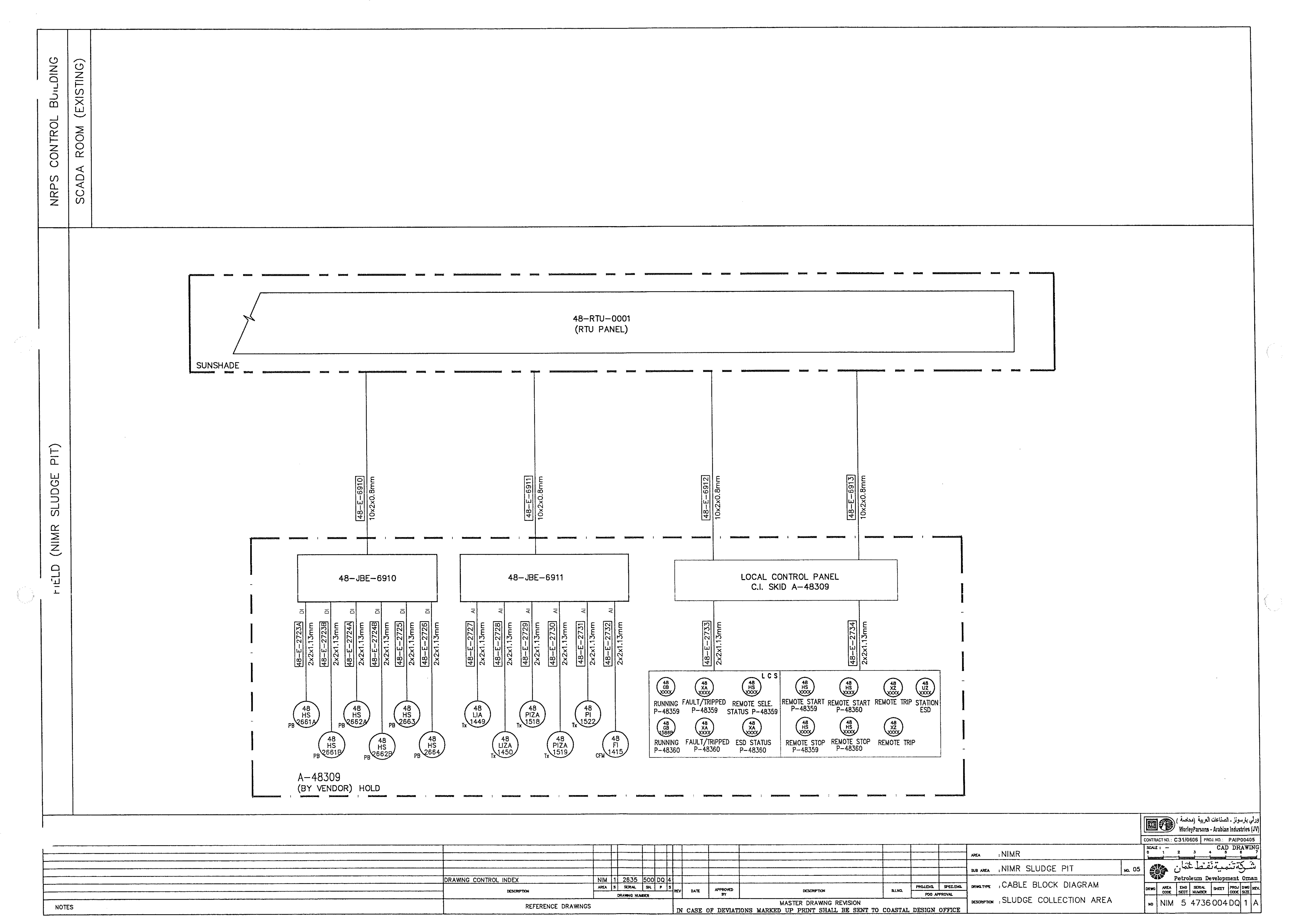
CONTRACT NO. : C31/0606 | PROJ. NO. : PAIP00405

SCALE : — CAD DRAWING
0 1 2 3 4 5 6 7

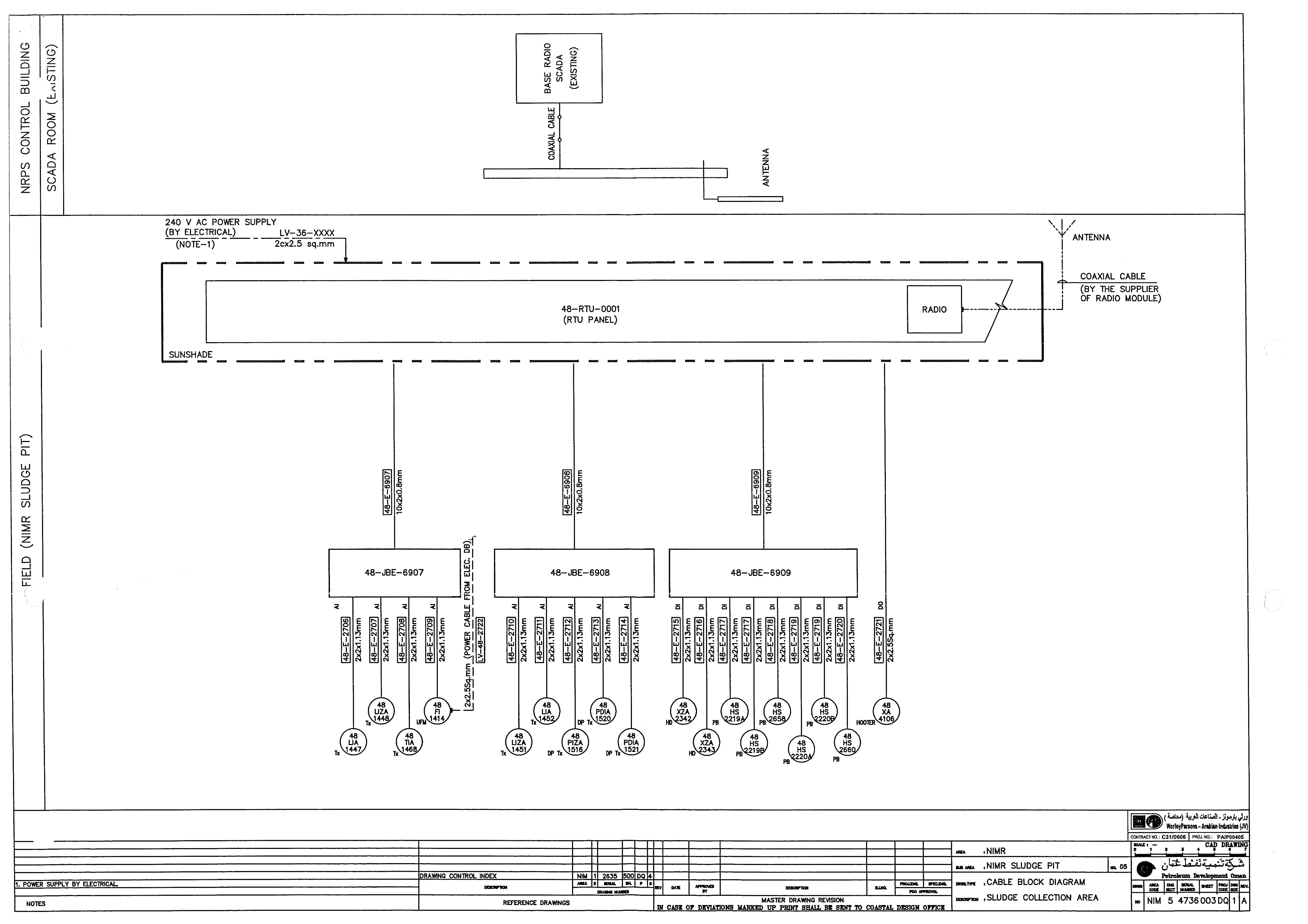
شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	4736	002	DQ	1	A

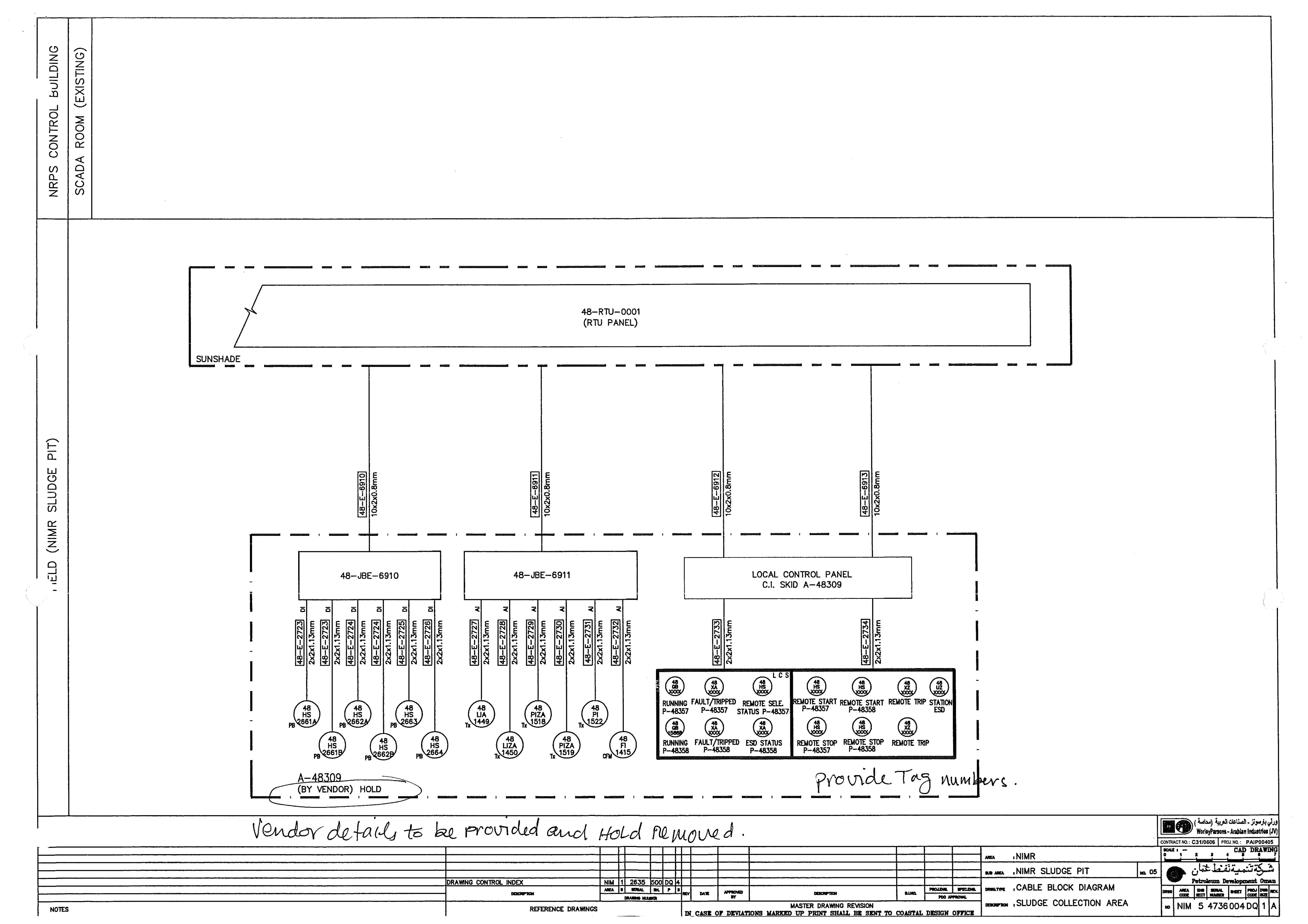

NRPS CONTROL BUILDING
SCADA ROOM (EXISTING)
BASE RADIO SCADA (EXISTING)
COAXIAL CABLE
ANTENNA
FIELD (NIMR SLUDGE PIT)
240 V AC POWER SUPPLY
(BY ELECTRICAL)
(NOTE-1)
LV-36-XXXX
2cx2.5 sq.mm
ANTENNA
COAXIAL CABLE
(BY THE SUPPLIER OF RADIO MODULE)
48-RTU-0001
(RTU PANEL)
RADIO
SUNSHADE
48-E-6907 10x2x0.8mm
48-E-6908 10x2x0.8mm
48-E-6909 10x2x0.8mm
48-JBE-6907
48-JBE-6908
48-JBE-6909
2x2.5Sq.mm (POWER CABLE FROM ELEC. DB)
LV-48-2722
48-E-2706 2x2x1.13mm
48-E-2707 2x2x1.13mm
48-E-2708 2x2x1.13mm
48-E-2709 2x2x1.13mm
48-E-2710 2x2x1.13mm
48-E-2711 2x2x1.13mm
48-E-2712 2x2x1.13mm
48-E-2713 2x2x1.13mm
48-E-2714 2x2x1.13mm
48-E-2715 2x2x1.13mm
48-E-2716 2x2x1.13mm
48-E-2717A 2x2x1.13mm
48-E-2717B 2x2x1.13mm
48-E-2718 2x2x1.13mm
48-E-2719A 2x2x1.13mm
48-E-2719B 2x2x1.13mm
48-E-2720 2x2x1.13mm
48-E-2721 2x2.5Sq.mm
AI
DI
DO
48 LIA 1447
48 LIZA 1448
48 TIA 1468
48 FI 1414
48 LIZA 1451
48 LIA 1452
48 PIZA 1516
48 PDIA 1520
48 PDIA 1521
48 XZA 2342
48 XZA 2343
48 HS 2219A
48 HS 2219B
48 HS 2658
48 HS 2220A
48 HS 2220B
48 HS 2660
48 XA 4106
Tx
UFM
DP Tx
HD
PB
HOOTER
1. POWER SUPPLY BY ELECTRICAL.
NOTES
DRAWING CONTROL INDEX
NIM 1 2635 500 DQ 4
DESCRIPTION
AREA S SERIAL SH. P S
DRAWING NUMBER
REFERENCE DRAWINGS
REV DATE APPROVED BY DESCRIPTION B.I.NO. PROJ.ENG. SPEC.ENG.
PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : CABLE BLOCK DIAGRAM
DESCRIPTION : SLUDGE COLLECTION AREA
وورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
NIM 5 4736 003 DQ 1 A



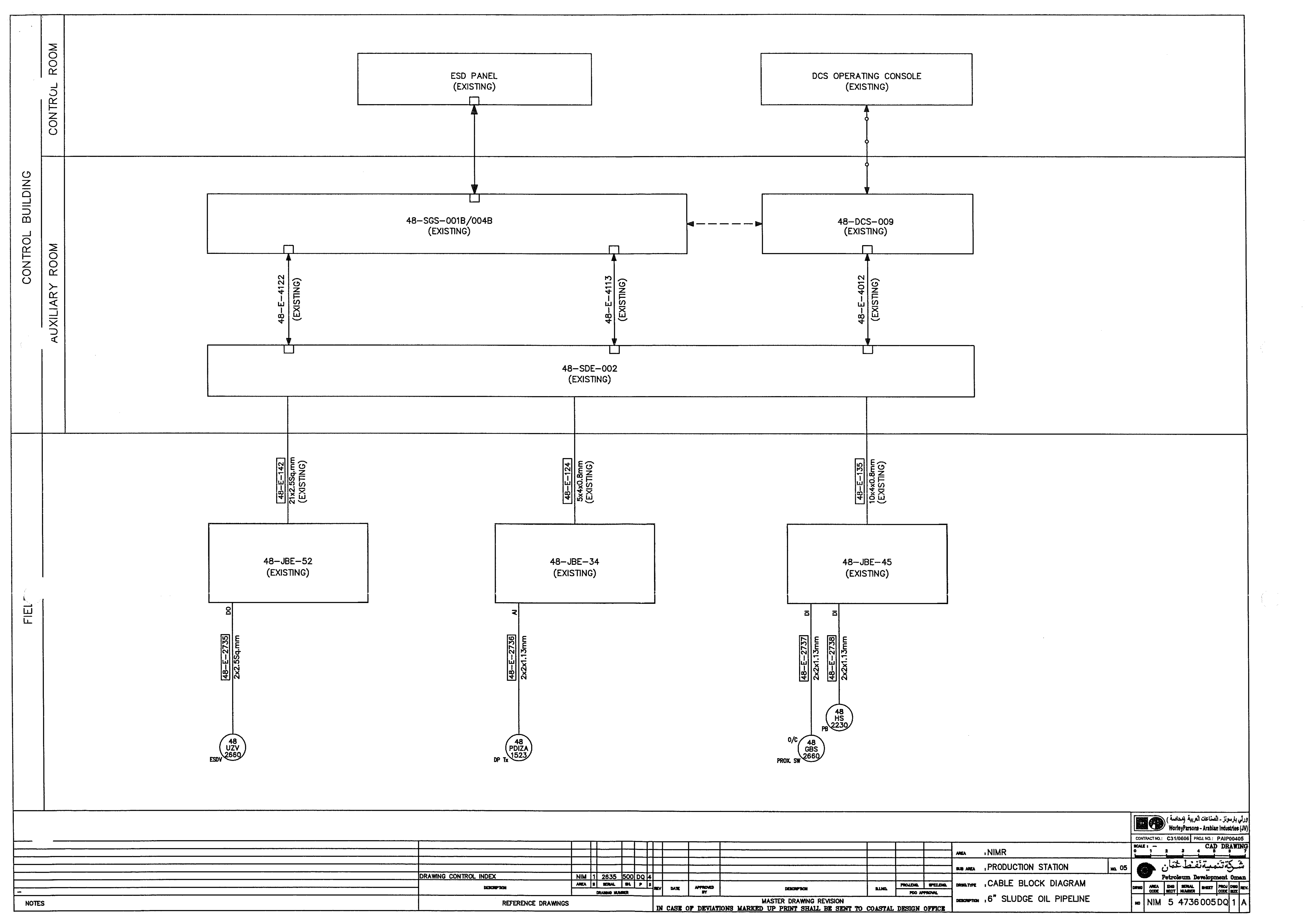
NRPS CONTROL BUILDING
SCADA ROOM (EXISTING)
FIELD (NIMR SLUDGE PIT)
48-RTU-0001
(RTU PANEL)
SUNSHADE
48-E-6910 10x2x0.8mm
48-E-6911 10x2x0.8mm
48-E-6912 10x2x0.8mm
48-E-6913 10x2x0.8mm
48-JBE-6910
48-JBE-6911
LOCAL CONTROL PANEL
C.I. SKID A-48309
DI 48-E-2723A 2x2x1.13mm
DI 48-E-2723B 2x2x1.13mm
DI 48-E-2724A 2x2x1.13mm
DI 48-E-2724B 2x2x1.13mm
DI 48-E-2725 2x2x1.13mm
DI 48-E-2726 2x2x1.13mm
AI 48-E-2727 2x2x1.13mm
AI 48-E-2728 2x2x1.13mm
AI 48-E-2729 2x2x1.13mm
AI 48-E-2730 2x2x1.13mm
AI 48-E-2731 2x2x1.13mm
AI 48-E-2732 2x2x1.13mm
48-E-2733 2x2x1.13mm
48-E-2734 2x2x1.13mm
PB 48 HS 2661A
PB 48 HS 2661B
PB 48 HS 2662A
PB 48 HS 2662B
PB 48 HS 2663
PB 48 HS 2664
Tx 48 LIA 1449
Tx 48 LIZA 1450
Tx 48 PIZA 1518
Tx 48 PIZA 1519
Tx 48 PI 1522
CFM 48 FI 1415
LCS
48 GB XXXX RUNNING P-48359
48 XA XXXX FAULT/TRIPPED P-48359
48 HS XXXX REMOTE SELE. STATUS P-48359
48 GB 1586B RUNNING P-48360
48 XA XXXX FAULT/TRIPPED P-48360
48 XA XXXX ESD STATUS P-48360
48 HS XXXX REMOTE START P-48359
48 HS XXXX REMOTE START P-48360
48 XZ XXXX REMOTE TRIP
48 UZ XXXX STATION ESD
48 HS XXXX REMOTE STOP P-48359
48 HS XXXX REMOTE STOP P-48360
48 XZ XXXX REMOTE TRIP
A-48309
(BY VENDOR) HOLD
NOTES
DRAWING CONTROL INDEX
NIM 1 2635 500 DQ 4
DESCRIPTION
AREA S SERIAL SH. F S
DRAWING NUMBER
REFERENCE DRAWINGS
REV DATE APPROVED BY DESCRIPTION B.I.NO. PROJ.ENG. SPEC.ENG.
PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG TYPE : CABLE BLOCK DIAGRAM
DESCRIPTION : SLUDGE COLLECTION AREA
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
SCALE : —
CAD DRAWING
0 1 2 3 4 5 6 7
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG AREA CODE ENG SECT SERIAL NUMBER SHEET PROJ CODE DWG SIZE REV.
NO NIM 5 4736 004 DQ 1 A

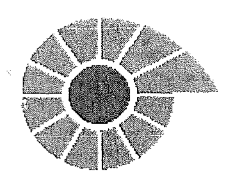


NRPS CONTROL BUILDING
SCADA ROOM (EXISTING)
BASE RADIO SCADA (EXISTING)
COAXIAL CABLE
ANTENNA
FIELD (NIMR SLUDGE PIT)
240 V AC POWER SUPPLY
(BY ELECTRICAL)
(NOTE-1)
LV-36-XXXX
2cx2.5 sq.mm
ANTENNA
COAXIAL CABLE
(BY THE SUPPLIER OF RADIO MODULE)
48-RTU-0001
(RTU PANEL)
RADIO
SUNSHADE
48-E-6907 10x2x0.8mm
48-E-6908 10x2x0.8mm
48-E-6909 10x2x0.8mm
48-JBE-6907
48-JBE-6908
48-JBE-6909
(POWER CABLE FROM ELEC. DB)
LV-48-2722 2x2.5Sq.mm
AI 48-E-2706 2x2x1.13mm
AI 48-E-2707 2x2x1.13mm
AI 48-E-2708 2x2x1.13mm
AI 48-E-2709 2x2x1.13mm
AI 48-E-2710 2x2x1.13mm
AI 48-E-2711 2x2x1.13mm
AI 48-E-2712 2x2x1.13mm
AI 48-E-2713 2x2x1.13mm
AI 48-E-2714 2x2x1.13mm
DI 48-E-2715 2x2x1.13mm
DI 48-E-2716 2x2x1.13mm
DI 48-E-2717 2x2x1.13mm
DI 48-E-2717 2x2x1.13mm
DI 48-E-2718 2x2x1.13mm
DI 48-E-2719 2x2x1.13mm
DI 48-E-2719 2x2x1.13mm
DI 48-E-2720 2x2x1.13mm
DO 48-E-2721 2x2.5Sq.mm
Tx 48 LIA 1447
Tx 48 LIZA 1448
Tx 48 TIA 1468
UFM 48 FI 1414
Tx 48 LIZA 1451
Tx 48 LIA 1452
DP Tx 48 PIZA 1516
DP Tx 48 PDIA 1520
DP Tx 48 PDIA 1521
HD 48 XZA 2342
HD 48 XZA 2343
PB 48 HS 2219A
PB 48 HS 2219B
PB 48 HS 2658
PB 48 HS 2220A
PB 48 HS 2220B
PB 48 HS 2660
HOOTER 48 XA 4106
1. POWER SUPPLY BY ELECTRICAL.
NOTES
DRAWING CONTROL INDEX
NIM 1 2635 500 DQ 4
DESCRIPTION
AREA SERIAL SH. P DRAWING NUMBER
REFERENCE DRAWINGS
REV DATE APPROVED BY DESCRIPTION B.I.NO. PROJ.ENG. SPEC.ENG. PDO APPROVAL
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR SLUDGE PIT
NO. 05
DRWG.TYPE : CABLE BLOCK DIAGRAM
DESCRIPTION : SLUDGE COLLECTION AREA
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
SCALE : —
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
DRWG NO
AREA CODE NIM
ENG SECT 5
SERIAL NUMBER 4736
SHEET 003
PROJ CODE DQ
DWG SIZE 1
REV. A



NRPS CONTROL BUILDING
SCADA ROOM (EXISTING)
FIELD (NIMR SLUDGE PIT)
48-RTU-0001
(RTU PANEL)
SUNSHADE
48-E-6910 10x2x0.8mm
48-E-6911 10x2x0.8mm
48-E-6912 10x2x0.8mm
48-E-6913 10x2x0.8mm
48-JBE-6910
48-JBE-6911
LOCAL CONTROL PANEL
C.I. SKID A-48309
48-E-2723 2x2x1.13mm
48-E-2724 2x2x1.13mm
48-E-2725 2x2x1.13mm
48-E-2726 2x2x1.13mm
48-E-2727 2x2x1.13mm
48-E-2728 2x2x1.13mm
48-E-2729 2x2x1.13mm
48-E-2730 2x2x1.13mm
48-E-2731 2x2x1.13mm
48-E-2732 2x2x1.13mm
48-E-2733 2x2x1.13mm
48-E-2734 2x2x1.13mm
48 HS 2661A
48 HS 2661B
48 HS 2662A
48 HS 2662B
48 HS 2663
48 HS 2664
48 LIA 1449
48 LIZA 1450
48 PIZA 1518
48 PIZA 1519
48 PI 1522
48 FI 1415
LCS
RUNNING P-48357
FAULT/TRIPPED P-48357
REMOTE SELE. STATUS P-48357
RUNNING P-48358
FAULT/TRIPPED P-48358
ESD STATUS P-48358
REMOTE START P-48357
REMOTE START P-48358
REMOTE TRIP
STATION ESD
REMOTE STOP P-48357
REMOTE STOP P-48358
REMOTE TRIP
A-48309
(BY VENDOR) HOLD
Provide Tag numbers.
Vendor details to be provided and Hold removed.
DRAWING CONTROL INDEX
NIM 1 2635 500 DQ 4
NOTES
REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ NO.: PAJP00405
CAD DRAWING
AREA NIMR
SUB AREA NIMR SLUDGE PIT
NO. 05
DWG TYPE CABLE BLOCK DIAGRAM
DESCRIPTION SLUDGE COLLECTION AREA
Petroleum Development Oman
NIM 5 4736 004 DQ 1 A


CONTROL BUILDING
CONTROL ROOM
AUXILIARY ROOM
FIELD
ESD PANEL
(EXISTING)
DCS OPERATING CONSOLE
(EXISTING)
48–SGS–001B/004B
(EXISTING)
48–DCS–009
(EXISTING)
48–E–4122
(EXISTING)
48–E–4113
(EXISTING)
48–E–4012
(EXISTING)
48–SDE–002
(EXISTING)
48–E–142
21x2.5Sq.mm
(EXISTING)
48–E–124
5x4x0.8mm
(EXISTING)
48–E–135
10x4x0.8mm
(EXISTING)
48–JBE–52
(EXISTING)
48–JBE–34
(EXISTING)
48–JBE–45
(EXISTING)
DO
AI
DI
DI
48–E–2735
2x2.5Sq.mm
48–E–2736
2x2x1.13mm
48–E–2737
2x2x1.13mm
48–E–2738
2x2x1.13mm
48 UZV 2660
ESDV
48 PDIZA 1523
DP Tx
48 GBS 2660
O/C
PROX. SW
48 HS 2230
PB
NOTES
DRAWING CONTROL INDEX
NIM 1 2635 500 DQ 4
REFERENCE DRAWINGS
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : PRODUCTION STATION
NO. 05
DRWG.TYPE : CABLE BLOCK DIAGRAM
DESCRIPTION : 6" SLUDGE OIL PIPELINE
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606
PROJ. NO.: PAIP00405
CAD DRAWING
Petroleum Development Oman
NIM 5 4736 005 DQ 1 A



Petroleum Development of Oman

To: **WPAI**

Attn: **Bachcha Ram Yadav**

TRANSMITTAL LETTER No: PAIP00405/WPAI /PDO/NIMR/T0060/11

W.B.S No:		Date:08/02/2011

Project Title: **Nimr Sludge Pits System upgrade – FED & DD**

Identification Number	Issue	Code	Nos.	Short Description
PAIP00405/PDO/TR00098		2		**Cause & Effect Diagrams**

Codes:

1. Comments as Noted
2. Approved
3. Revised

5.For Construction
6.For Enquiry
7.For Purchase

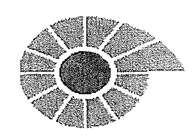
9.For Final
10.Cancelled
11.For Information

External	Code	Nos.	Number	Internal	Code	Nos.	Number
A = Copy of the transmittal B = Full documentation P = Print T = Reproducible O = Original				Originator = OSE/44N			

Additional Remarks:

Yours Very Truly
Sr. *Khalid Al-Maqbali.* OSE22N
Project Engineer
Petroleum Development of Oman

Internal Instruction Note



Nimr Sludge Pits System Ugrade-FED&DD

Name:	*Maqbali, Khalid*	Ref. Ind.	*OSE22N*	Date	*05-05-2011*
Subject:	**PAIP00405/PDO/TR00096** **Cause & Effect Diagrams**				

Issue For: Approval Comments Information Approved for AFC Final / As-built
Enquiry Purchase Original for Signature Your Files Record Action

	Internal	*Signature*	*Date*	*Remarks*
05/02/2011	*OSE14N* /OSE15N	[signature]	6/02/11	No Comments
05/02/2011	*OSE23N*	[signature]	8/2/2011	Approved.

Note:

1-Please use Black/Blue Ink pen to comments.

2-Please return the Document to OSE/25N After Review/Comments.

Comments Sheet



Document Transmittal

Job No: PAIP00405 **Transmittal No:**PAIP00405/PDO/TR00098
Title: Nimr Sludge Pits System upgrade - FED & DD **Date:** 05/02/2011
Client Code: PDO **Name:** Petroleum Development Oman LLC
From: Bachcha Ram Yadav **To:** KHALID AL-Maqbali OSE22N

We enclosed herewith the following documents for **Original for Signature**
Please acknowledge by returning a copy of this transmittal dully signed

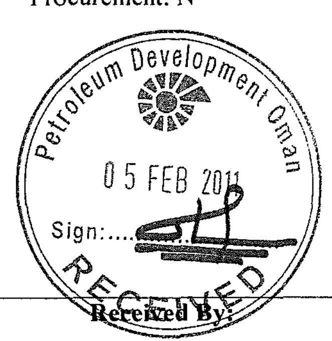
Sr. No.	Document No.	Rev.#	Title	Copies	Remarks
1	NIM-5-5005-001	B	Cause & Effect Diagrams		
2	NIM-5-5005-002	A	Cause & Effect Diagrams		
3	NIM-5-5005-007	A	Cause & Effect Diagrams		

.ternal Distribution:

Project: Indraneel Dutta
Process: Manisha Devghare
Mechanical: Himanshu Desai
Electrical: Shahaul Diwan
Control & Automation: Prakash Thomas

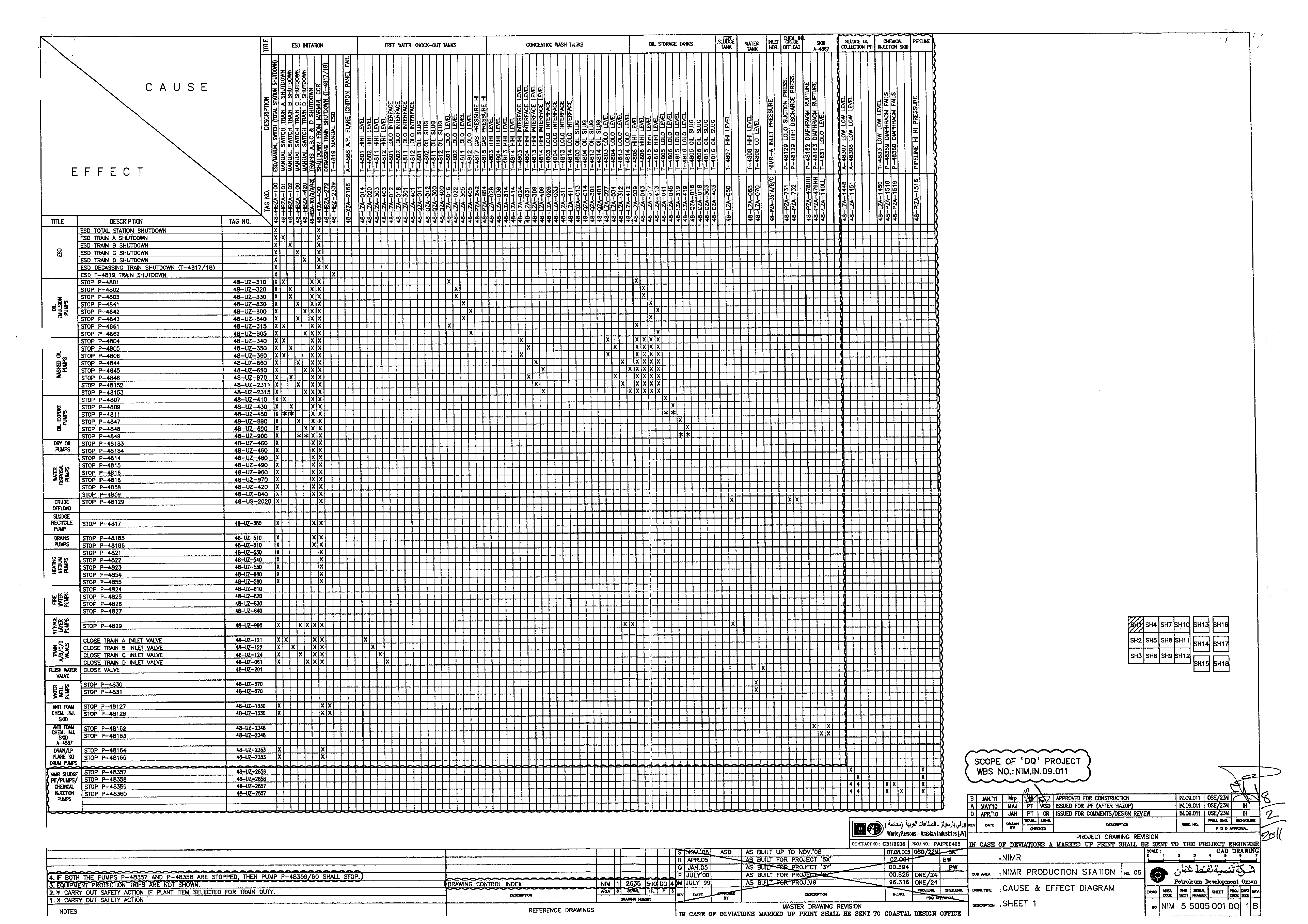
Civil: Balaraj Reddy
Pipeline: Mallesh Mallik
Client: KHALID AL-Maqbali OSE22N
Construction: N
Procurement: N

Others :

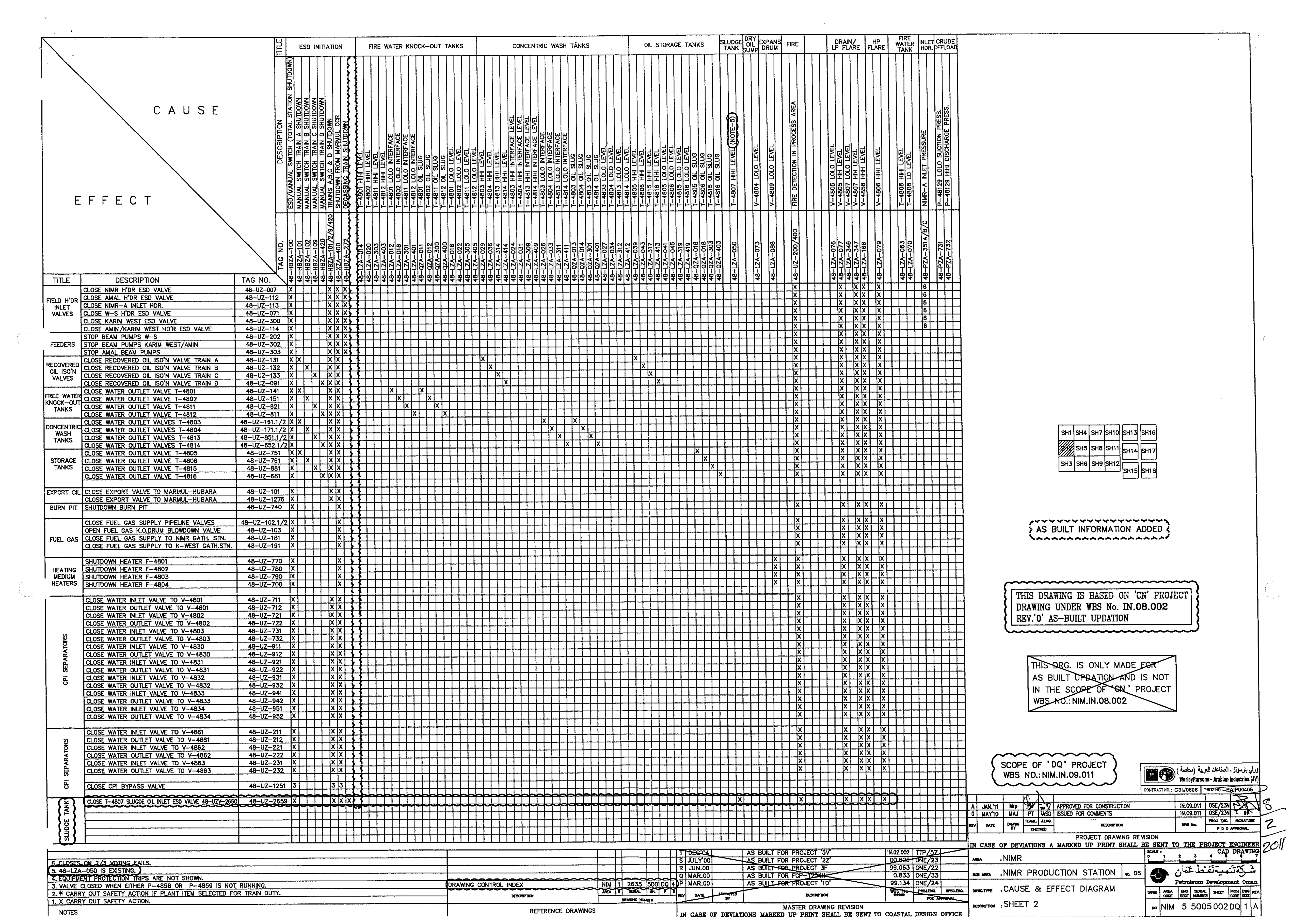


Transmitted By **Received By:** **Date**

WorleyParsons Project Engineer
Bachcha Ram Yadav



CAUSE
EFFECT
TITLE
DESCRIPTION
TAG NO.
ESD INITIATION
FREE WATER KNOCK-OUT TANKS
CONCENTRIC WASH TANKS
OIL STORAGE TANKS
SLUDGE TANK
WATER TANK
INLET HDR.
CRUDE OFFLOAD
SKID A-4867
SLUDGE OIL COLLECTION PIT
CHEMICAL INJECTION SKID
PIPELINE
ESD/MANUAL SWITCH (TOTAL STATION SHUTDOWN) 48-HBZA-100
MANUAL SWITCH TRAIN A SHUTDOWN 48-HBZA-101
MANUAL SWITCH TRAIN B SHUTDOWN 48-HBZA-102
MANUAL SWITCH TRAIN C SHUTDOWN 48-HBZA-109
MANUAL SWITCH TRAIN D SHUTDOWN 48-HBZA-420
SHUTDOWN FROM MANUAL CCR 48-XZA-400
DEGASSING TRAIN SHUTDOWN (T-4817/18) 48-HBZA-272
T-4819 MANUAL ESD 48-HBZ-2339
A-4868 A.P. FLARE IGNITION PANEL FAIL 48-XZA-2186
PIPELINE HI HI PRESSURE 48-PZA-1516
ESD TOTAL STATION SHUTDOWN
ESD TRAIN A SHUTDOWN
ESD TRAIN B SHUTDOWN
ESD TRAIN C SHUTDOWN
ESD TRAIN D SHUTDOWN
ESD DEGASSING TRAIN SHUTDOWN (T-4817/18)
ESD T-4819 TRAIN SHUTDOWN
OIL EMULSION PUMPS
STOP P-4801 48-UZ-310
STOP P-4802 48-UZ-320
STOP P-4803 48-UZ-330
STOP P-4841 48-UZ-830
STOP P-4842 48-UZ-800
STOP P-4843 48-UZ-840
STOP P-4861 48-UZ-315
STOP P-4862 48-UZ-805
WASHED OIL PUMPS
STOP P-4804 48-UZ-340
STOP P-4805 48-UZ-350
STOP P-4806 48-UZ-360
STOP P-4844 48-UZ-860
STOP P-4845 48-UZ-660
STOP P-4846 48-UZ-870
STOP P-48152 48-UZ-2311
STOP P-48153 48-UZ-2315
OIL EXPORT PUMPS
STOP P-4807 48-UZ-410
STOP P-4809 48-UZ-430
STOP P-4811 48-UZ-450
STOP P-4847 48-UZ-890
STOP P-4848 48-UZ-690
STOP P-4849 48-UZ-900
DRY OIL PUMPS
STOP P-48183 48-UZ-460
STOP P-48184 48-UZ-460
WATER DISPOSAL PUMPS
STOP P-4814 48-UZ-480
STOP P-4815 48-UZ-490
STOP P-4816 48-UZ-960
STOP P-4818 48-UZ-970
STOP P-4858 48-UZ-420
STOP P-4859 48-UZ-040
CRUDE OFFLOAD
STOP P-48129 48-US-2020
SLUDGE RECYCLE PUMP
STOP P-4817 48-UZ-380
DRAINS PUMPS
STOP P-48185 48-UZ-510
STOP P-48186 48-UZ-510
HEATING MEDIUM PUMPS
STOP P-4821 48-UZ-530
STOP P-4822 48-UZ-540
STOP P-4823 48-UZ-550
STOP P-4854 48-UZ-980
STOP P-4855 48-UZ-580
FIRE WATER PUMPS
STOP P-4824 48-UZ-610
STOP P-4825 48-UZ-620
STOP P-4826 48-UZ-630
STOP P-4827 48-UZ-640
NT'FACE LAYER PUMPS
STOP P-4829 48-UZ-990
TRAIN A/B/C/D VALVES
CLOSE TRAIN A INLET VALVE 48-UZ-121
CLOSE TRAIN B INLET VALVE 48-UZ-122
CLOSE TRAIN C INLET VALVE 48-UZ-124
CLOSE TRAIN D INLET VALVE 48-UZ-061
FLUSH WATER VALVE
CLOSE VALVE 48-UZ-201
WATER WELL PUMPS
STOP P-4830 48-UZ-570
STOP P-4831 48-UZ-570
ANTI FOAM CHEM. INJ. SKID
STOP P-48127 48-UZ-1330
STOP P-48128 48-UZ-1330
ANTI FOAM CHEM. INJ. SKID A-4867
STOP P-48162 48-UZ-2348
STOP P-48163 48-UZ-2348
DRAIN/LP FLARE KO DRUM PUMPS
STOP P-48164 48-UZ-2353
STOP P-48165 48-UZ-2353
NMR SLUDGE PIT/PUMPS/ CHEMICAL INJECTION PUMPS
STOP P-48357 48-UZ-2656
STOP P-48358 48-UZ-2658
STOP P-48359 48-UZ-2657
STOP P-48360 48-UZ-2657
SH1 SH4 SH7 SH10 SH13 SH16
SH2 SH5 SH8 SH11 SH14 SH17
SH3 SH6 SH9 SH12 SH15 SH18
SCOPE OF 'DQ' PROJECT
WBS NO.:NIM.IN.09.011
4. IF BOTH THE PUMPS P-48357 AND P-48358 ARE STOPPED, THEN PUMP P-48359/60 SHALL STOP.
3. EQUIPMENT PROTECTION TRIPS ARE NOT SHOWN.
2. * CARRY OUT SAFETY ACTION IF PLANT ITEM SELECTED FOR TRAIN DUTY.
1. X CARRY OUT SAFETY ACTION
NOTES
DRAWING CONTROL INDEX NIM 1 2635 500 DQ 4
REFERENCE DRAWINGS
S NOV.'08 ASD AS BUILT UP TO NOV.'08 OT.08.005 OSO/22N SK
R APR.05 AS BUILT FOR PROJECT '5X' 02.001 BW
Q JAN.05 AS BUILT FOR PROJECT '3Y' 00.394 BW
P JULY'00 AS BUILT FOR PROJECT '2Z' 00.826 ONE/24
M JULY 99 AS BUILT FOR PROJ.M9 96.316 ONE/24
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAJP00405
B JAN.'11 Mrp APPROVED FOR CONSTRUCTION IN.09.011 OSE/23N
A MAY'10 MAJ PT ASD ISSUED FOR IPF (AFTER HAZOP) IN.09.011 OSE/23N IH
0 APR.'10 JAH PT GR ISSUED FOR COMMENTS/DESIGN REVIEW IN.09.011 OSE/23N IH
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
:NIMR
SUB AREA :NIMR PRODUCTION STATION NO. 05
DRWG.TYPE :CAUSE & EFFECT DIAGRAM
DESCRIPTION :SHEET 1
CAD DRAWING
شركة تنمية نفط عمان
Petroleum Development Oman
NO NIM 5 5005 001 DQ 1 B



CAUSE

EFFECT

CAUSE

TITLE	DESCRIPTION	TAG NO.
ESD INITIATION	ESD/MANUAL SWTCH (TOTAL STATION SHUTDOWN)	48-HBZA-100
	MANUAL SWITCH TRAIN A SHUTDOWN	48-HBZA-101
	MANUAL SWITCH TRAIN B SHUTDOWN	48-HBZA-102
	MANUAL SWITCH TRAIN C SHUTDOWN	48-HBZA-109
	MANUAL SWITCH TRAIN D SHUTDOWN	48-HBZA-420
	TRAINS A,B,C & D SHUTDOWN	48-HBZA-101/2/9/420
	SHUTDOWN FROM MARMUL CCR	48-XZA-400
	DEGASSING TRAIN SHUTDOWN	48-HBZA-272
FIRE WATER KNOCK-OUT TANKS	T-4801 HIHI LEVEL	48-LZA-014
	T-4802 HIHI LEVEL	48-LZA-020
	T-4811 HIHI LEVEL	48-LZA-303
	T-4812 HIHI LEVEL	48-LZA-403
	T-4801 LOLO INTERFACE	48-LZA-012
	T-4802 LOLO INTERFACE	48-LZA-018
	T-4811 LOLO INTERFACE	48-LZA-301
	T-4812 LOLO INTERFACE	48-LZA-401
	T-4801 OIL SLUG	48-QZA-011
	T-4802 OIL SLUG	48-QZA-012
	T-4811 OIL SLUG	48-QZA-300
	T-4812 OIL SLUG	48-QZA-400
	T-4801 LOLO LEVEL	48-LZA-016
	T-4802 LOLO LEVEL	48-LZA-022
	T-4811 LOLO LEVEL	48-LZA-305
	T-4812 LOLO LEVEL	48-LZA-405
CONCENTRIC WASH TANKS	T-4803 HIHI LEVEL	48-LZA-029
	T-4804 HIHI LEVEL	48-LZA-036
	T-4813 HIHI LEVEL	48-LZA-314
	T-4814 HIHI LEVEL	48-LZA-414
	T-4803 HIHI INTERFACE LEVEL	48-LZA-024
	T-4804 HIHI INTERFACE LEVEL	48-LZA-031
	T-4813 HIHI INTERFACE LEVEL	48-LZA-309
	T-4814 HIHI INTERFACE LEVEL	48-LZA-409
	T-4803 LOLO INTERFACE	48-LZA-026
	T-4804 LOLO INTERFACE	48-LZA-033
	T-4813 LOLO INTERFACE	48-LZA-311
	T-4814 LOLO INTERFACE	48-LZA-411
	T-4803 OIL SLUG	48-QZA-013
	T-4804 OIL SLUG	48-QZA-014
	T-4813 OIL SLUG	48-QZA-301
	T-4814 OIL SLUG	48-QZA-401
	T-4803 LOLO LEVEL	48-LZA-027
	T-4804 LOLO LEVEL	48-LZA-034
	T-4813 LOLO LEVEL	48-LZA-312
	T-4814 LOLO LEVEL	48-LZA-412
OIL STORAGE TANKS	T-4805 HIHI LEVEL	48-LZA-039
	T-4806 HIHI LEVEL	48-LZA-043
	T-4815 HIHI LEVEL	48-LZA-317
	T-4816 HIHI LEVEL	48-LZA-413
	T-4805 LOLO LEVEL	48-LZA-041
	T-4806 LOLO LEVEL	48-LZA-045
	T-4815 LOLO LEVEL	48-LZA-319
	T-4816 LOLO LEVEL	48-LZA-419
	T-4805 OIL SLUG	48-QZA-016
	T-4806 OIL SLUG	48-QZA-018
	T-4815 OIL SLUG	48-QZA-303
	T-4816 OIL SLUG	48-QZA-403
SLUDGE TANK	T-4807 HIHI LEVEL (NOTE-5)	48-LZA-050
DRY OIL SUMP	V-4804 LOLO LEVEL	48-LZA-073
EXPANS DRUM	V-4809 LOLO LEVEL	48-LZA-088
FIRE	FIRE DETECTION IN PROCESS AREA	48-UZ-200/400
DRAIN/ LP FLARE	V-4805 LOLO LEVEL	48-LZA-076
	V-4805 HIH LEVEL	48-LZA-077
	V-4807 LOLO LEVEL	48-LZA-346
	V-4807 HIH LEVEL	48-LZA-347
	V-4858 HHH LEVEL	48-LZA-166
HP FLARE	V-4806 HIHI LEVEL	48-LZA-079
FIRE WATER TANK	T-4808 HIHI LEVEL	48-LZA-063
	T-4808 LO LEVEL	48-LZA-070
INLET HDR.	NIMR-A INLET PRESSURE	48-PZA-351A/B/C
CRUDE OFFLOAD	P-48129 LOLO SUCTION PRESS.	48-PZA-731
	P-48129 HIHI DISCHARGE PRESS.	48-PZA-732

EFFECT

TITLE	DESCRIPTION	TAG NO.
FIELD H'DR INLET VALVES	CLOSE NIMR H'DR ESD VALVE	48-UZ-007
	CLOSE AMAL H'DR ESD VALVE	48-UZ-112
	CLOSE NIMR-A INLET HDR.	48-UZ-113
	CLOSE W-S H'DR ESD VALVE	48-UZ-071
	CLOSE KARIM WEST ESD VALVE	48-UZ-300
	CLOSE AMIN/KARIM WEST HD'R ESD VALVE	48-UZ-114
FEEDERS	STOP BEAM PUMPS W-S	48-UZ-202
	STOP BEAM PUMPS KARIM WEST/AMIN	48-UZ-302
	STOP AMAL BEAM PUMPS	48-UZ-303
RECOVERED OIL ISO'N VALVES	CLOSE RECOVERED OIL ISO'N VALVE TRAIN A	48-UZ-131
	CLOSE RECOVERED OIL ISO'N VALVE TRAIN B	48-UZ-132
	CLOSE RECOVERED OIL ISO'N VALVE TRAIN C	48-UZ-133
	CLOSE RECOVERED OIL ISO'N VALVE TRAIN D	48-UZ-091
FREE WATER KNOCK-OUT TANKS	CLOSE WATER OUTLET VALVE T-4801	48-UZ-141
	CLOSE WATER OUTLET VALVE T-4802	48-UZ-151
	CLOSE WATER OUTLET VALVE T-4811	48-UZ-821
	CLOSE WATER OUTLET VALVE T-4812	48-UZ-811
CONCENTRIC WASH TANKS	CLOSE WATER OUTLET VALVES T-4803	48-UZ-161.1/2
	CLOSE WATER OUTLET VALVES T-4804	48-UZ-171.1/2
	CLOSE WATER OUTLET VALVES T-4813	48-UZ-851.1/2
	CLOSE WATER OUTLET VALVES T-4814	48-UZ-652.1/2
STORAGE TANKS	CLOSE WATER OUTLET VALVE T-4805	48-UZ-751
	CLOSE WATER OUTLET VALVE T-4806	48-UZ-761
	CLOSE WATER OUTLET VALVE T-4815	48-UZ-881
	CLOSE WATER OUTLET VALVE T-4816	48-UZ-681
EXPORT OIL	CLOSE EXPORT VALVE TO MARMUL-HUBARA	48-UZ-101
	CLOSE EXPORT VALVE TO MARMUL-HUBARA	48-UZ-1276
BURN PIT	SHUTDOWN BURN PIT	48-UZ-740
FUEL GAS	CLOSE FUEL GAS SUPPLY PIPELINE VALVES	48-UZ-102.1/2
	OPEN FUEL GAS K.O.DRUM BLOWDOWN VALVE	48-UZ-103
	CLOSE FUEL GAS SUPPLY TO NIMR GATH. STN.	48-UZ-181
	CLOSE FUEL GAS SUPPLY TO K-WEST GATH.STN.	48-UZ-191
HEATING MEDIUM HEATERS	SHUTDOWN HEATER F-4801	48-UZ-770
	SHUTDOWN HEATER F-4802	48-UZ-780
	SHUTDOWN HEATER F-4803	48-UZ-790
	SHUTDOWN HEATER F-4804	48-UZ-700
CPI SEPARATORS	CLOSE WATER INLET VALVE TO V-4801	48-UZ-711
	CLOSE WATER OUTLET VALVE TO V-4801	48-UZ-712
	CLOSE WATER INLET VALVE TO V-4802	48-UZ-721
	CLOSE WATER OUTLET VALVE TO V-4802	48-UZ-722
	CLOSE WATER INLET VALVE TO V-4803	48-UZ-731
	CLOSE WATER OUTLET VALVE TO V-4803	48-UZ-732
	CLOSE WATER INLET VALVE TO V-4830	48-UZ-911
	CLOSE WATER OUTLET VALVE TO V-4830	48-UZ-912
	CLOSE WATER INLET VALVE TO V-4831	48-UZ-921
	CLOSE WATER OUTLET VALVE TO V-4831	48-UZ-922
	CLOSE WATER INLET VALVE TO V-4832	48-UZ-931
	CLOSE WATER OUTLET VALVE TO V-4832	48-UZ-932
	CLOSE WATER INLET VALVE TO V-4833	48-UZ-941
	CLOSE WATER OUTLET VALVE TO V-4833	48-UZ-942
	CLOSE WATER INLET VALVE TO V-4834	48-UZ-951
	CLOSE WATER OUTLET VALVE TO V-4834	48-UZ-952
CPI SEPARATORS	CLOSE WATER INLET VALVE TO V-4861	48-UZ-211
	CLOSE WATER OUTLET VALVE TO V-4861	48-UZ-212
	CLOSE WATER INLET VALVE TO V-4862	48-UZ-221
	CLOSE WATER OUTLET VALVE TO V-4862	48-UZ-222
	CLOSE WATER INLET VALVE TO V-4863	48-UZ-231
	CLOSE WATER OUTLET VALVE TO V-4863	48-UZ-232
	CLOSE CPI BYPASS VALVE	48-UZ-1251
SLUDGE TANK	CLOSE T-4807 SLUGDE OIL INLET ESD VALVE 48-UZV-2660	48-UZ-2659

SH1 SH4 SH7 SH10 SH13 SH16
SH5 SH8 SH11 SH14 SH17
SH3 SH6 SH9 SH12 SH15 SH18

AS BUILT INFORMATION ADDED

THIS DRAWING IS BASED ON 'CN' PROJECT DRAWING UNDER WBS No. IN.08.002 REV.'0' AS-BUILT UPDATION

~~THIS DRG.~~ IS ONLY MADE ~~FOR~~ AS BUILT ~~UPDATION AND~~ IS NOT IN THE ~~SCOPE OF 'CN'~~ PROJECT ~~WBS NO.~~: NIM.IN.08.002

SCOPE OF 'DQ' PROJECT WBS NO.: NIM.IN.09.011

NOTES

1. X CARRY OUT SAFETY ACTION.
2. * CARRY OUT SAFETY ACTION IF PLANT ITEM SELECTED FOR TRAIN DUTY.
3. VALVE CLOSED WHEN EITHER P-4858 OR P-4859 IS NOT RUNNING.
4. EQUIPMENT PROTECTION TRIPS ARE NOT SHOWN.
5. 48-LZA-050 IS EXISTING.
6. CLOSES ON 2/3 VOTING FAILS.

REFERENCE DRAWINGS

DESCRIPTION	AREA	S	SERIAL	SL	F	S
DRAWING CONTROL INDEX	NIM	1	2635	500	DQ	4

MASTER DRAWING REVISION

REV	DATE	APPROVED BY	DESCRIPTION	WBS No.	PROJ.ENG.	SPEC.ENG.
T	DEC'04		AS BUILT FOR PROJECT '5V'	IN.02.002	TTP/57	
S	JULY'00		AS BUILT FOR PROJECT '2Z'	00.826	ONE/23	
R	JUN.00		AS BUILT FOR PROJECT 3F	99.063	ONE/22	
Q	MAR.00		AS BUILT FOR FCP-1Z04N	0.833	ONE/33	
P	MAR.00		AS BUILT FOR PROJECT '1D'	99.134	ONE/24	

IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE

ورلي بارسونز - الصناعات العربية (محاصة)
WorleyParsons - Arabian Industries (JV)

CONTRACT NO.: C31/0606 PROJ.NO.: PAIP00405

PROJECT DRAWING REVISION

REV	DATE	DRAWN BY	CHECKED TEAM.L.	CHECKED J.ENG.	DESCRIPTION	WBS No.	PDO APPROVAL PROJ. ENG.	PDO APPROVAL SIGNATURE
A	JAN.'11	Mrp			APPROVED FOR CONSTRUCTION	IN.09.011	OSE/23N	
0	MAY'10	MAJ	PT	VSD	ISSUED FOR COMMENTS	IN.09.011	OSE/23N	IH

8/2/2011

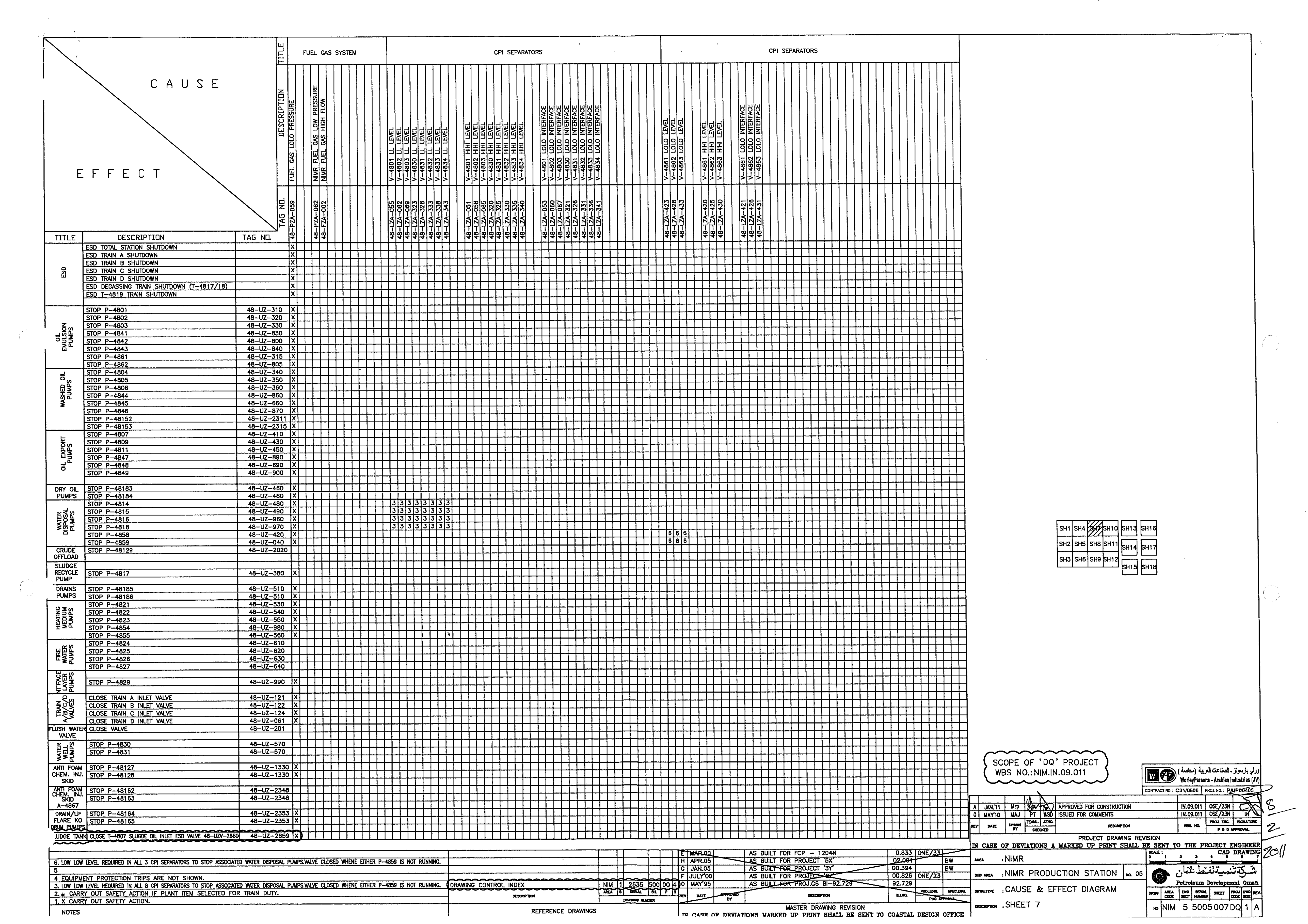
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER

CAD DRAWING SCALE: 0 1 2 3 4 5 6 7

AREA: NIMR
SUB AREA: NIMR PRODUCTION STATION NO. 05
DRWG.TYPE: CAUSE & EFFECT DIAGRAM
DESCRIPTION: SHEET 2

شركة تنمية نفط عمان
Petroleum Development Oman

DRWG	AREA CODE	ENG SECT	SERIAL NUMBER	SHEET	PROJ CODE	DWG SIZE	REV.
NO	NIM	5	5005	002	DQ	1	A


CAUSE
EFFECT
TITLE
DESCRIPTION
TAG NO.
FUEL GAS SYSTEM
CPI SEPARATORS
CPI SEPARATORS
FUEL GAS LOLO PRESSURE 48-PZA-059
NIMR FUEL GAS LOW PRESSURE 48-PZA-062
NIMR FUEL GAS HIGH FLOW 48-FZA-002
V-4801 LL LEVEL 48-LZA-055
V-4802 LL LEVEL 48-LZA-062
V-4803 LL LEVEL 48-LZA-069
V-4830 LL LEVEL 48-LZA-323
V-4831 LL LEVEL 48-LZA-328
V-4832 LL LEVEL 48-LZA-333
V-4833 LL LEVEL 48-LZA-338
V-4834 LL LEVEL 48-LZA-343
V-4801 HIHI LEVEL 48-LZA-051
V-4802 HIHI LEVEL 48-LZA-058
V-4803 HIHI LEVEL 48-LZA-065
V-4830 HIHI LEVEL 48-LZA-320
V-4831 HIHI LEVEL 48-LZA-325
V-4832 HIHI LEVEL 48-LZA-330
V-4833 HIHI LEVEL 48-LZA-335
V-4834 HIHI LEVEL 48-LZA-340
V-4801 LOLO INTERFACE 48-LZA-053
V-4802 LOLO INTERFACE 48-LZA-060
V-4803 LOLO INTERFACE 48-LZA-067
V-4830 LOLO INTERFACE 48-LZA-321
V-4831 LOLO INTERFACE 48-LZA-326
V-4832 LOLO INTERFACE 48-LZA-331
V-4833 LOLO INTERFACE 48-LZA-336
V-4834 LOLO INTERFACE 48-LZA-341
V-4861 LOLO LEVEL 48-LZA-423
V-4862 LOLO LEVEL 48-LZA-428
V-4863 LOLO LEVEL 48-LZA-433
V-4861 HIHI LEVEL 48-LZA-420
V-4862 HIHI LEVEL 48-LZA-425
V-4863 HIHI LEVEL 48-LZA-430
V-4861 LOLO INTERFACE 48-LZA-421
V-4862 LOLO INTERFACE 48-LZA-426
V-4863 LOLO INTERFACE 48-LZA-431
ESD
ESD TOTAL STATION SHUTDOWN X
ESD TRAIN A SHUTDOWN X
ESD TRAIN B SHUTDOWN X
ESD TRAIN C SHUTDOWN X
ESD TRAIN D SHUTDOWN X
ESD DEGASSING TRAIN SHUTDOWN (T-4817/18) X
ESD T-4819 TRAIN SHUTDOWN X
OIL EMULSION PUMPS
STOP P-4801 48-UZ-310 X
STOP P-4802 48-UZ-320 X
STOP P-4803 48-UZ-330 X
STOP P-4841 48-UZ-830 X
STOP P-4842 48-UZ-800 X
STOP P-4843 48-UZ-840 X
STOP P-4861 48-UZ-315 X
STOP P-4862 48-UZ-805 X
WASHED OIL PUMPS
STOP P-4804 48-UZ-340 X
STOP P-4805 48-UZ-350 X
STOP P-4806 48-UZ-360 X
STOP P-4844 48-UZ-860 X
STOP P-4845 48-UZ-660 X
STOP P-4846 48-UZ-870 X
STOP P-48152 48-UZ-2311 X
STOP P-48153 48-UZ-2315 X
OIL EXPORT PUMPS
STOP P-4807 48-UZ-410 X
STOP P-4809 48-UZ-430 X
STOP P-4811 48-UZ-450 X
STOP P-4847 48-UZ-890 X
STOP P-4848 48-UZ-690 X
STOP P-4849 48-UZ-900 X
DRY OIL PUMPS
STOP P-48183 48-UZ-460 X
STOP P-48184 48-UZ-460 X
WATER DISPOSAL PUMPS
STOP P-4814 48-UZ-480 X 3 3 3 3 3 3 3 3
STOP P-4815 48-UZ-490 X 3 3 3 3 3 3 3 3
STOP P-4816 48-UZ-950 X 3 3 3 3 3 3 3 3
STOP P-4818 48-UZ-970 X 3 3 3 3 3 3 3 3
STOP P-4858 48-UZ-420 X 6 6 6
STOP P-4859 48-UZ-040 X 6 6 6
CRUDE OFFLOAD
STOP P-48129 48-UZ-2020
SLUDGE RECYCLE PUMP
STOP P-4817 48-UZ-380 X
DRAINS PUMPS
STOP P-48185 48-UZ-510 X
STOP P-48186 48-UZ-510 X
HEATING MEDIUM PUMPS
STOP P-4821 48-UZ-530 X
STOP P-4822 48-UZ-540 X
STOP P-4823 48-UZ-550 X
STOP P-4854 48-UZ-980 X
STOP P-4855 48-UZ-560 X
FIRE WATER PUMPS
STOP P-4824 48-UZ-610
STOP P-4825 48-UZ-620
STOP P-4826 48-UZ-630
STOP P-4827 48-UZ-640
INTFACE LAYER PUMPS
STOP P-4829 48-UZ-990 X
TRAIN A/B/C/D VALVES
CLOSE TRAIN A INLET VALVE 48-UZ-121 X
CLOSE TRAIN B INLET VALVE 48-UZ-122 X
CLOSE TRAIN C INLET VALVE 48-UZ-124 X
CLOSE TRAIN D INLET VALVE 48-UZ-061 X
FLUSH WATER VALVE
CLOSE VALVE 48-UZ-201
WATER WELL PUMPS
STOP P-4830 48-UZ-570
STOP P-4831 48-UZ-570
ANTI FOAM CHEM. INJ. SKID
STOP P-48127 48-UZ-1330 X
STOP P-48128 48-UZ-1330 X
ANTI FOAM CHEM. INJ. SKID A-4867
STOP P-48162 48-UZ-2348
STOP P-48163 48-UZ-2348
DRAIN/LP FLARE KO DRUM PUMPS
STOP P-48164 48-UZ-2353 X
STOP P-48165 48-UZ-2353 X
SLUDGE TANK
CLOSE T-4807 SLUDGE OIL INLET ESD VALVE 48-UZV-2660 48-UZ-2659 X
SH1 SH4 SH7 SH10 SH13 SH16
SH2 SH5 SH8 SH11 SH14 SH17
SH3 SH6 SH9 SH12 SH15 SH18
SCOPE OF 'DQ' PROJECT
WBS NO.: NIM.IN.09.011
WorleyParsons - Arabian Industries (JV)
CONTRACT NO.: C31/0606 PROJ. NO.: PAIP00405
A JAN.'11 APPROVED FOR CONSTRUCTION IN.09.011 OSE/23N
0 MAY'10 MAJ PT ASD ISSUED FOR COMMENTS IN.09.011 OSE/23N
REV DATE DRAWN BY CHECKED DESCRIPTION WBS. NO. PROJ. ENG. SIGNATURE P D O APPROVAL
PROJECT DRAWING REVISION
IN CASE OF DEVIATIONS A MARKED UP PRINT SHALL BE SENT TO THE PROJECT ENGINEER
CAD DRAWING
6. LOW LOW LEVEL REQUIRED IN ALL 3 CPI SEPARATORS TO STOP ASSOCIATED WATER DISPOSAL PUMPS.VALVE CLOSED WHENE EITHER P-4859 IS NOT RUNNING.
5
4 EQUIPMENT PROTECTION TRIPS ARE NOT SHOWN.
3. LOW LOW LEVEL REQUIRED IN ALL 8 CPI SEPARATORS TO STOP ASSOCIATED WATER DISPOSAL PUMPS.VALVE CLOSED WHENE EITHER P-4859 IS NOT RUNNING.
2. * CARRY OUT SAFETY ACTION IF PLANT ITEM SELECTED FOR TRAIN DUTY.
1. X CARRY OUT SAFETY ACTION.
NOTES
DRAWING CONTROL INDEX NIM 1 2635 500 DQ 4 0
REFERENCE DRAWINGS
E MAR.00 AS BUILT FOR FCP - 1204N 0.833 ONE/33
H APR.05 AS BUILT FOR PROJECT '5X' 02.001 BW
G JAN.05 AS BUILT FOR PROJECT '3Y' 00.394 BW
F JULY'00 AS BUILT FOR PROJECT '2Z' 00.826 ONE/23
0 MAY'95 AS BUILT FOR PROJ.G6 BI-92.729 92.729
MASTER DRAWING REVISION
IN CASE OF DEVIATIONS MARKED UP PRINT SHALL BE SENT TO COASTAL DESIGN OFFICE
AREA : NIMR
SUB AREA : NIMR PRODUCTION STATION NO. 05
DRWG.TYPE : CAUSE & EFFECT DIAGRAM
DESCRIPTION : SHEET 7
Petroleum Development Oman
NO NIM 5 5005007DQ 1 A
8
2
2011